DOCUMENT RESUME

ED 054 837 LI 003 114

TITLE A Design Study of a Planning Information System for Kansas.

INSTITUTION Langston-Kitch and Associates, Inc., Wichita, Kans.

SPONS AGENCY Department of Housing and Urban Development, Washington, D.C.; Kansas State Dept. of Economic Development, Topeka.

PUB DATE Mar 70

NOTE 110p.; (3 References)

EDRS PRICE MF-$0.65 HC-$6.58

DESCRIPTORS *Data Bases; Economics; Health; Human Resources; Information Dissemination; Information Needs; *Information Systems; Land Use; *Planning; Population Distribution; Recreation; *State Agencies; Water Resources

IDENTIFIERS *Kansas

ABSTRACT

Efforts of this planning study are limited to the pressing needs of state agencies for planning which were identified earlier, plus an attempt to identify data elements common to many agencies that relate directly to the State Economic Development Planning Program. The major categories of data types essential to the planning system are land use, health and social resources, water resources, recreation resources and economics. A study survey revealed there were numerous information systems projects underway and a need for standardization of data elements for data exchange. Recommendations included the continuation of support for information systems activity, population information should be emphasized, a land use requirements manual is needed, a "Directory of State Information" should be developed and maintained, the Kansas civic audit should be completed, a data control committee should be established, and the recreation and economic information that has been developed should be maintained. The requirements for implementing these recommendations are analyzed. (AB)

ED054837

A DESIGN STUDY OF A PLANNING INFORMATION SYSTEM FOR KANSAS

Prepared by

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THE PREPARATION OF THIS REPORT WAS FINANCED IN PART THROUGH A COMPREHENSIVE PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT. Wash. BB300129

Project No. Kansas P-74
Work Item III.A.7.

March 1970

LI 003 114

Title:	Design Study for a Planning Information System
Author:	Langston, Kitch and Associates, Inc.
Subject:	Analysis and Definition of Data Requirements and Uses for a Planning Information System at the State Level
Date:	January, 1970
Planning Agency:	Planning Division, Kansas Department of Economic Department (The State Planning Agency)
Source of Copies:	Kansas Department of Economic Development, Planning Division, 122-S, State Office Building, Topeka, Kansas 66612
For Reference:	State Depository Library, Farrell Library, Kansas State University, Manhattan, Kansas 66502
HUD Project Number:	Kansas P-74
Series Number:	28
Number of Pages:	101

Abstract:

Analysis and recommendations for development of a computer based planning information system for the State of Kansas.

A survey of all state agencies was conducted to determine the source and needs for information. Primary emphasis was placed on four categories of information i.e. demographic, recreation, land use and economic.

Conclusions regarding data deficiencies, commonality of data needs and data sources are presented. In addition, the data flows are identified and solutions for obtaining various data elements are presented.

Problems associated with the development and implementation of a state planning information system administered by the Department of Economic Development are presented in light of current departmental policies.

In addition to the survey, certain subsystems of a planning information system have been implemented. The report contains flow charts and description of an economic subsystem which has been implemented and a recreation subsystem which has been partially implemented. Costs have been estimated and presented for completion of the system.

The recommendations are based on the principle of automating base functions to achieve an integrated system. The Kansas Department of Economic Development should work with functional state agencies and local entities to achieve the overall goals of a Statewide Planning Information System.

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INTRODUCTION

The Planning Division of the Kansas Department of Economic Development was established in 1961. One of the responsibilities of the Planning Division is the preparation of an overall comprehensive economic development plan for Kansas. In this connection, work was initiated in 1965.

> "The purpose of the state planning process is to prepare a logical guide for the growth and development of the state as this is affected and conditioned by the application of state programs. This effort is based on the fundamental premise that the several state agencies must continue to provide the planning for their own function, but can better accomplish this by working together through a coordinated state planning process toward the achievement of an integrated set of goals and objectives. They will thus assure themselves and the state more effective responsibilities and provide for a more effective and stable total state government."[1]

The above statement defines policy which has been followed during the past four years by the Planning Division. The studies that have been accomplished to date reflect the cooperation and need for cooperation among the various state agencies. They have been accomplished by the state agencies and universities where the appropriate knowledge of the subject matter exists and by outside consultants when appropriate knowledge was not available.[2]

In the early phases of the state planning program those people responsible for administering the program began considering means for maintaining the enormous quantity of data being gathered. As a result, there have been recommendations made regarding the necessity for a computerized system to handle various categories of information. The "Study Design Summaries Report" names three categores: (1) Social Resources, (2) Economic Information and (3) Demographic Information.[3] Projects

[1] Design Summaries Report, Kansas Department of Economic Development, p. 1.
[2] Ibid.
[3] Design Summaries Report, Kansas Department of Economic Development, p. 4.

are now underway for the development of an Economic Information System and a Demographic Information System. In addition, a recreation plan for several subregions of Kansas has been promoted which resulted in the collection of a considerable amount of recreation information.

The most pressing need for data handling capability lies in those areas where data either have already been developed or where studies are underway that will produce valuable data as a by-product. This study has been directed primarily toward satisfying these more pressing needs; however, the study did address itself to the task of identifying other data elements that are common to the various agencies and that logically and feasibly could be incorporated into the present design framework.

Langston, Kitch & Associates, Inc. was retained to study, analyze and generally design a computerized system to satisfy these more pressing needs. In addition the consultant was required to supervise a survey to identify other common data elements that are used in development planning which would make up a "Planning Information System." The additional data elements would then be incorporated into the design framework.

A source and use survey was conducted by using a questionnaire that was completed by the various agencies and by personal interviews conducted by personnel of Langston, Kitch & Associates, Inc. The result of this survey is described in detail in this report.

BASIC ELEMENTS OF A PLANNING INFORMATION SYSTEM

The word planning is so all-encompassing that it must be defined in relation to this study.

Every organization plans, whether it is a governmental agency, an industrial concern or a religious group. The planning effort may be formal or informal but it plans, nevertheless. To say that a Planning Information System is being developed for the State of Kansas could mean that this system would serve the needs of all state agencies for any kind of planning undertaken. This, however, is not the case with this study. Efforts have been limited to those pressing needs called out earlier plus an attempt to identify data elements common to many agencies that relate directly to the State Economic Development Planning Program. The major categories of data types essential to the planning system as defined are presented below. The common usage data elements have been segregated into sub-system categories for presentation. Categories are:

1. Land Use
2. Health and Social Resources
3. Water Resources
4. Recreation Resources
5. Economics

The universal problem inherent in the development of any information system is maintenance. In the majority of cases planning agencies have started by writing computer programs to store and manipulate data that are available. They have rarely considered at the outset the problems of maintaining the information. As a result, the information becomes rapidly outdated with a parallel rapid drop in usage. In many cases, systems have been developed and programs written only to find that the expense of maintenance is prohibitive for a single agency. After being confronted with such a situation the agency attempts to sell the use of their system to others, only to find that the system is so rigidly patterned to their individual needs that no one else can effectively utilize it.

In defining the data categories and data elements relevant to this study, foremost consideration has been given to the problem of maintenance.

Those data elements that are commonly needed by the various departments, agencies, boards and commissions will be discussed at length in a subsequent part of this report. Many elements that were requested as noted in the survey cannot be economically obtained and maintained at this time.

In addition to the state agency surveys and interviews, other sources of planning information have been considered.

FEDERAL EXCHANGE INFORMATION SYSTEM

The material developed by the state and by the Stanford Research Institute relating to the FIXS System has been reviewed. As yet there have been no actual data elements developed. To this point the FIXS System work has been concerned with defining a format of inputs and outputs for a system that will help to monitor and measure the effectiveness of the various Federal, State and local programs being administered by the state.

1970 CENSUS DATA

There will be a wealth of socio-economic data available through the 1970 census. The Bureau of Census is expending considerable effort to make the 1970 census data available to users. There will be various summary computer tapes available as well as the traditional tabulations. At this point there is no definite information regarding what computer facilities and programming efforts will be available at the state level with which to utilize this information. Consideration must be given the budgetary requirements necessary to utilize these data before we can make concrete recommendations regarding their relationship to an overall Planning Information System.

THE KANSAS CIVIC AUDIT

The Kansas Civic Audit as processed by the Department of Economic Development is a very significant planning tool. However, at present the data elements contained in this report must be obtained at the community level. At this time there are no means to assure that the data can be maintained. If and when full response for state coverage is realistic and standardized procedures for enforceable maintenance come into being, this information should be included in the Planning Information System. Recommendations for an enforceable procedure are included in this report.

METHODOLOGY

The first step of the survey was to develop and circulate a questionnaire to all the state agencies. See appendix "A" for sample questionnaire.

The questionnaire contained examples of data that we know are relevant to economic development planning. In addition, several open-ended questions were included. These questions were designed to uncover data needs and sources of which were not clearly evident. The survey questionnaires were analyzed and matrices were developed to show the relationships of agencies' needs and the commonality of data elements. These matrices are exhibited in appendix "B" of this report. It should be noted that there were more responses and more commonality reflected on those elements that were identified by users than for those elements that were detected through the use of open ended questions.

As a result of the survey questionnaire, numerous data elements and data categories were identified and cataloged. They were cataloged on interview sheets with one element or category per sheet. See appendix "C" for examples of interview sheets. This was done to facilitate the interviewing process. The purpose of the interviews was to more clearly define the data elements or categories and to determine the methods of data generation and maintenance. In order to accomplish this, the following procedure was followed:

1. The various department heads and those who obtain and use the data were interviewed.
2. Reports and files were analyzed.
3. The use made of the identified data elements was analyzed.

It became apparent early in the survey that it was necessary to identify some common key to which the various uncorrelated data elements could be referred. Consequently another matrix was developed that would assist in this purpose. See appendix "D" of this report.

Results of the Survey and Interviews

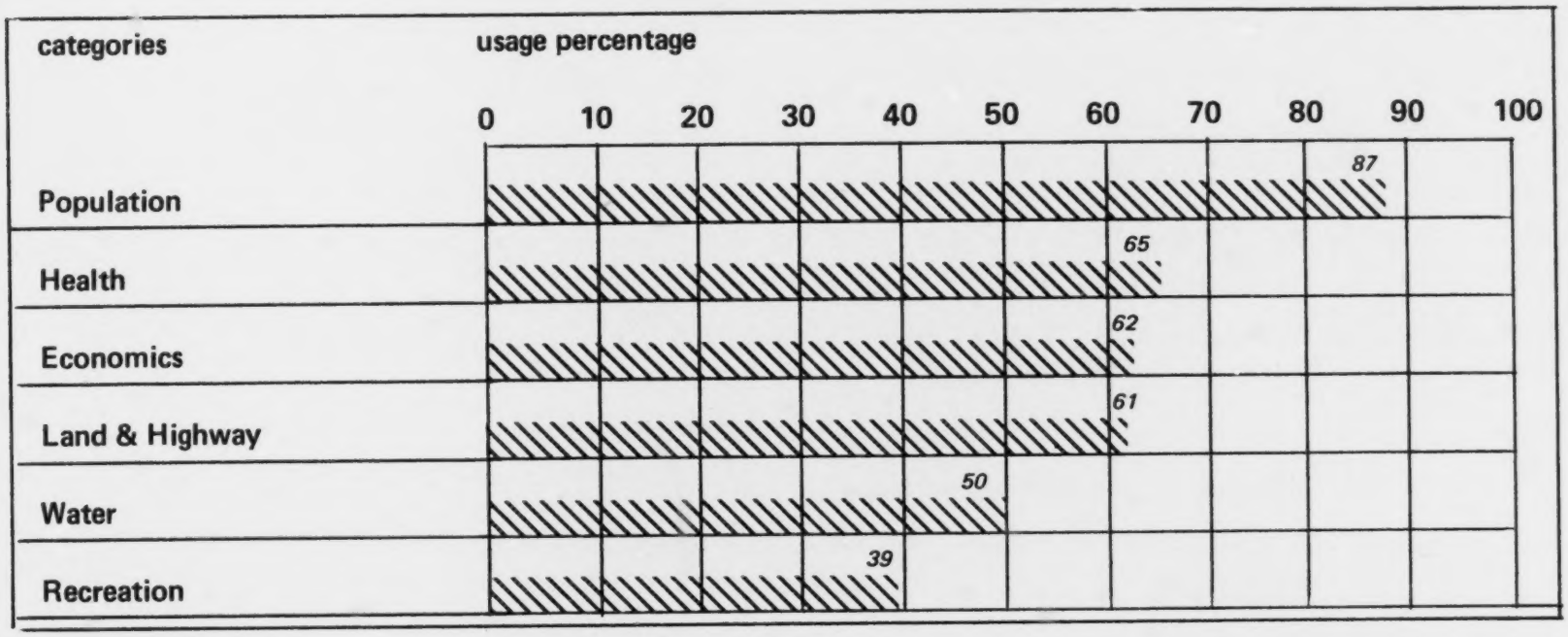
The survey showed that the state agencies develop most of their own data needs. The data may be developed from in-house reports or gathered from local agencies. However, practically all depend upon obtaining some of the information they use from other state agencies. The degree of dependency on other state agencies varies from ten percent to fifty-four percent. Analysis revealed that approximately seventy percent of agency data requirements are confined to eleven (11) of the state's sources. These are:

1. Office of Economic Analysis.
2. Kansas Department of Economic Development.
3. State Board of Health (Vital Statistics).
4. State Board of Agriculture (Population Data).
5. Water Resources Board.
6. Department of Labor.
7. Department of Social Welfare.
8. Department of Revenue.
9. State Highway Commission.
10. Department of Public Instruction.
11. Vocational Education.

Figure I graphically displays the results in regard to the commonality of data uses and sources. The top part of Figure I shows the usage percentage of all agencies surveyed that use the same categories of data. As an example, some aspects of population data are used by eighty-seven percent of all agencies surveyed. Health and Economic data is a general requirement of 65% and 62% of the agencies, respectively. The percentage of general usage tapers down to thirty-nine percent for those who use recreation data elements.

The lower part of Figure I shows the relative importance of the state agencies as data sources. Seventy percent of the information used by the state agencies is generated by the agency who uses it. The Chart shows the percentage of data supplied by each agency from a high of twenty-seven percent by the Board of Agriculture down to a low of thirteen percent by Vocational Education.

PLANNING INFORMATION CATEGORIES / COMMON USAGE PERCENTAGE



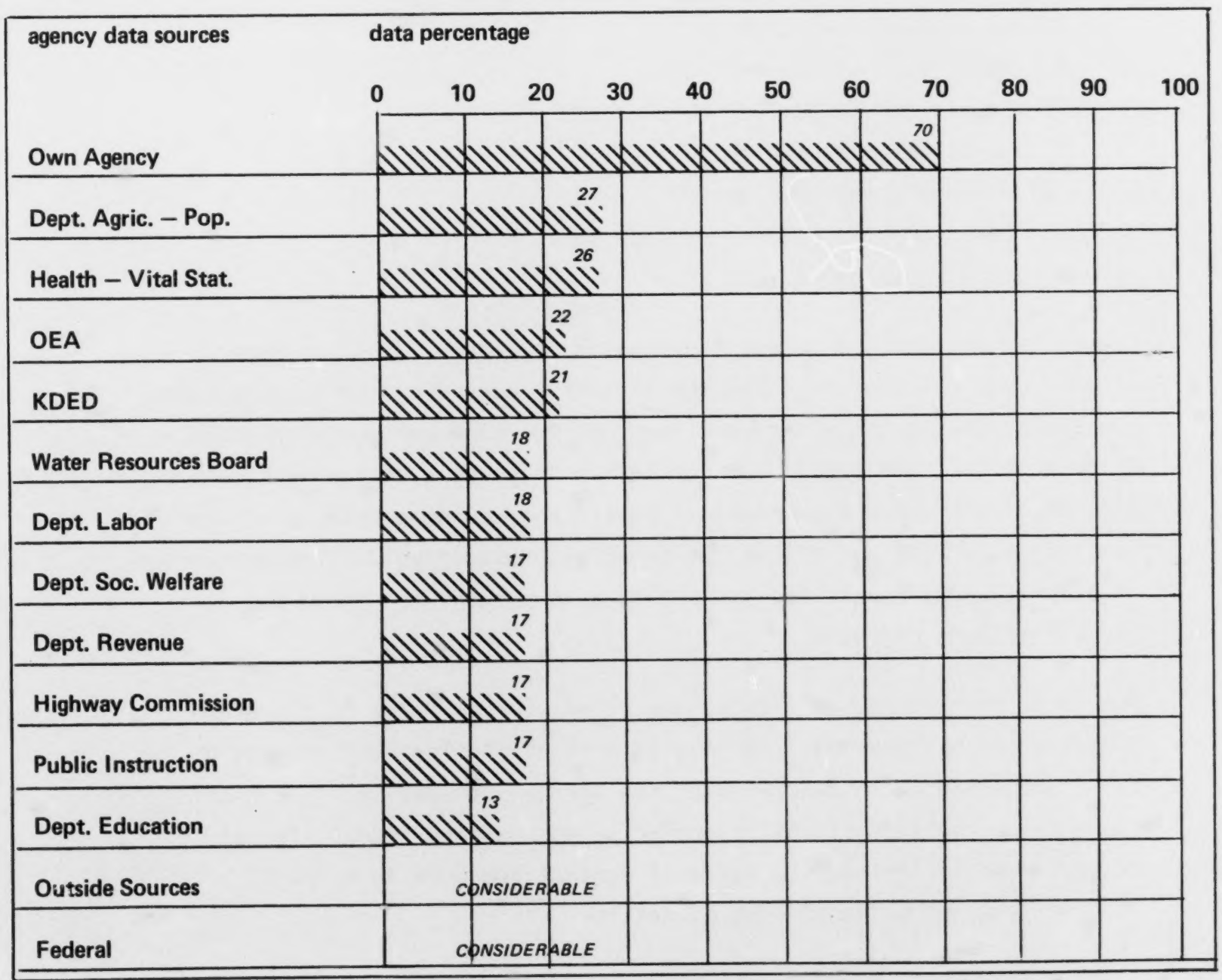


Figure 1

There are certain aspects of this survey which raise questions that cannot be answered at this time. As pointed out earlier, the survey sheet provided for two types of responses. One response was merely to check off data elements previously identified. The other response required that the respondent write down data elements or categories. Forty-two percent of the data elements pre-identified were checked as being used by most of the agencies; whereas, only twenty percent of those elements or categories volunteered by agencies were also used by other agencies. It is not known at this point which is the more valid picture of commonality. It could be that many other agencies need the same data that is needed by one particular agency but did not think of it, or did not take the time to write it down. Also many agencies may have checked off a data element that appeared on a list and actually have little or no real need for the data.

From this experience, it is felt that surveys using questionnaries are very weak in determining data elements that are relevant and common to the majority of the state agencies. In addition to the problem of relevancy, there are also problems regarding the ability to economically obtain and maintain the information desired. These problems are discussed further in the system concepts chapter of this report.

Data elements that were developed during the surveys and interviews were analyzed with regard to making a determination of the basic data flow. It is important to know if the information flows are horizontal or vertical, ie., do the state agencies generate most of the information used and pass it back and forth between agencies, or does the information come from some other source? Analysis indicates that the data flow is vertical, that most of the information used at the state level is actually generated at a lower level such as a region or municipality.

The diagram shown as Figure 2 indicates the results of the analysis regarding the flow of information. Only a minor portion of the information used by state agencies is obtained from other state agencies. By far the

DATA EXCHANGE
BETWEEN AGENCIES

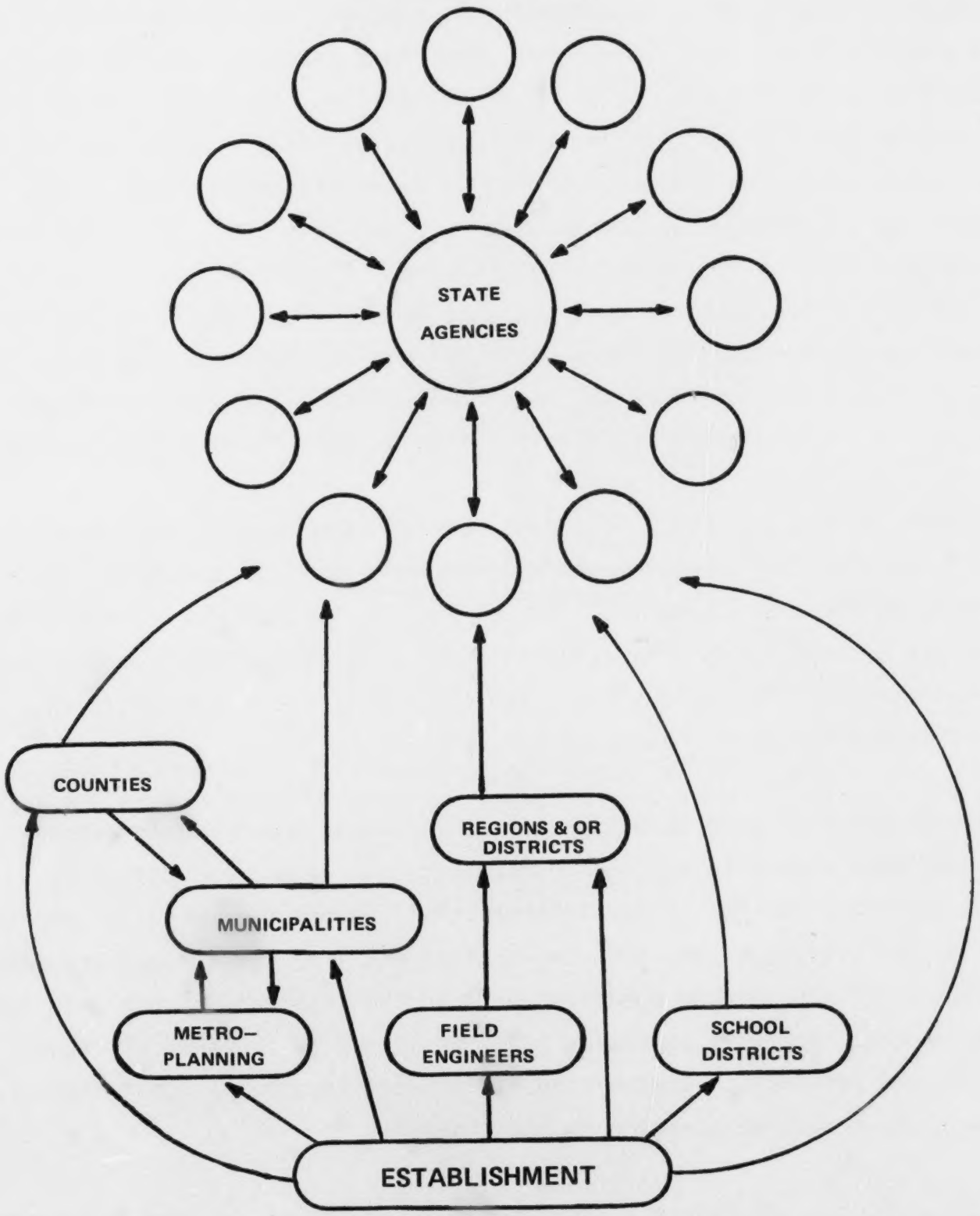


FIGURE 2

majority of the information is self-generated or obtained from some lower level of government as indicated.

A state agency may obtain information from any number of lower level governmental units. Although the diagram shows a hierarchial relationship between the various governmental agencies, there is no formal relationship as regards data flow upward to the state level. As the arrows indicate, a state agency may go directly to any of the governmental units for information.

There are at least four programs of regionalization for the state, none of which are compatible. The Health Department has set up and is coordinating with regional centers. The Water Resources Board also has regional offices which are extensions of the state agency. The Department of Economic Development has developed regions for planning purposes, and the Crime Control Commission has regionalized the state for their purposes. A first impression would be that the regional approach would be the most logical informational tie to the local areas. However, on closer inspection, we find that none of these regions have any impetus or constitutional authority, which makes it difficult to establish any kind of formal information flow.

As a result of these findings the next step in the analysis was directed toward developing some key to which all the various data elements requested by the state agencies could be commonly related. Such a key seemed to be related to the levels of government. Thus we constructed a chart on this basis in order to determine if all data elements would fit somewhere within the key. The chart is included as appendix "D" of this report.

From this analysis it was concluded that any common key must relate to geographic area. The range of information desired is such that the level of detail will vary greatly from file to file. Thus some sort of geographic coding scheme would be the most appropriate means of keying the various groups of data.

Geographic Coding

There are many variations of geographic coding systems available and in the development stage throughout the nation. The Tri-State Transportation Committee of New York, New Jersey and Connecticut is developing a coding system called the AULT System. The Metropolitan Planning Commission of the Kansas City Region is establishing a modification of the Transverse Mercator System. In Kansas, the State Highway Department uses a coordinate system based on one-half mile girds. Since this has proven too gross for many state highway purposes, the formulas are being corrected in order to locate the points to + or -ten feet.

After considerable research, the Bureau of the Census has constructed a census geographic base file consisting of an Address Coding Guide and Geographic Base File, formerly known as the DIME file. This resulted in the development of a computer-assisted address matching system called ADMATCH. Through the use of these programs a match can be made to agency file data to obtain geographic coordinates, census tract and block for their data records. This type of file adaptation program is expected to be available after 1970. The area coverage will extend approximately to the limits of urbanized areas.

The geographic coding system for the state should relate to the local areas since most of the information exchange is with these areas. From this standpoint, the Bureau of Census geographic base file and programs should be given serious consideration.

We have not attempted ro design a geographic coding system in this study. However, the data fields and file formats are designed so that a coordinate system can be utilized when one is established.

Data Elements

The data element requirements for a Planning Information System can be broken down into a number of categories. A discussion of the major data items, organized around general categories, follows:

Land Use

Land and its use is one of the primary categories of information required for any kind of development planning. However, only seven of the twenty-seven agencies that responded to the survey indicated a need for this category of information. Those who do recognize a need for and use such information expend considerable time and money to obtain and maintain it. In fact, there is more money spent by all levels of government on Land Use surveys than any other category. Much of this effort could be reduced if better procedures were developed to maintain this information.

Most Land Use information is developed at the local level. The development is usually a result of transportation, building condition, and other studies. The state has access to this information but there is very little compatibility between the various areas. The information varies in format from sophisticated computer files that are structured for instantaneous retrieval to notations on base maps. In addition, the amount of data varies from a few basic elements to a comprehensive list of fifty to one hundred elements relating to all aspects of land and its use.

The Wichita Metropolitan Area is in the process of developing a computer based land use information system. The Metropolitan Planning Commission - Kansas City Region - has a comprehensive file of land use information for all of Johnson, Wyandotte, and Leavenworth Counties. The Wichita Metropolitan Planning Commission is coordinating with the Kansas City Metropolitan Commission in order to insure as much compatibility as possible. However, there are no guidelines from the State of Kansas regarding needs at the state level; consequently, some important need may be overlooked.

Kansas needs a Land Use Requirements Manual. Such a need will continue to grow as more communities accomplish land use surveys for local planning. Without it, accurate comparability between localities and regions will .

be difficult. Repeated inventories, each time for different purposes, can be costly. A uniform Land Use coding system with such locator coding in all concerned data systems is recommended. Establishment and maintenance of a coded land use system, together with forecasts of the future growth and distribution of potential uses will be a requisite for comprehensive planning. Metropolitan Areas would utilize such data since it would facilitate the interchange of statistical and research information between communities and organizations.

The agencies, departments, boards and commissions in Kansas have use for data elements and segregated comparison or accumulation to parcel, census tract, district and region. Such levels are not now obtainable or, if once obtained, not maintainable due to the missing uniform land use class code system. There is low use by the agencies of land ownership. There are very few land use data elements that are available and maintainable at the state level. The following list includes those items that can be maintained. These are basically locator items and their value as functional elements are questionable. They are listed here only to show their availability. A listing of suspended data items and reason for exclusion at this time can be found in Appendix "E".

The data items that are available at the state level are:

ITEM	LEVEL	POSSIBLE SOURCE & UPDATE FREQUENCY
SCHOOL DISTRICT (District number and an area code for record control)	PARCEL	This information is obtainable from Public Instruction. It has district update through the reporting of the boards and schools.
TYPE & VALUATION	COUNTY	The Property Valuation Department, working in cooperation with the Department of the Interior has the information on all real estate, improved and unimproved. Further, valuations and taxes by company, county and state is available and is subject to annual updating. This data source is through assessors and the tax annual as of each July 1st gives county valuations.

ITEM	LEVEL	POSSIBLE SOURCE & UPDATE FREQUENCY
REGION NUMBER	REGION	Although there are various delineations as to Kansas Regions as used by different agencies, the Regions and Sub-regions as numbered and mapped by the Kansas Department of Economic Development are recognized as the standard for planning purposes KDED will be the source for supplying this data and for updates thereto.
TOWNSHIP (North-South Direction numbers)	TOWNSHIP	The Kansas Geological Survey is the source for such data. Any number change that might occur through the government survey system would be input to the planning system by the geological survey.
RANGE	RANGE	The Kansas Geological Survey is the source for this data. Should numbering changes occur in the government survey system, the Kansas Geological Survey would input change dates to the planning system.
PARCEL	PARCEL	This information is needed for a 'locator' key of the Planning Information System. By definition it is the number identification of a piece of contiguous land under one ownership and one land use. Taxation records at jurisdictional levels have this information as input source and such data is maintained on an annual basis.
CENSUS TRACT	TRACT	The source of this data is the census maps. The frequency of update needs to be any major change of the Kansas breakout per census bureau description.
SECTION	SECTION	The Kansas Geological Survey who has the record of the official government survey system is the source for inputting and maintaining this data to the Planning Information System.
HIGHWAY SURFACE	CITY	The Kansas State Highway Commission is the input source for this data. As Field District Reports of update information are received by the Highway Commission, the pertinent change data should be fed to the Planning Information System.
HIGHWAY TERMINUS	CITY	The Kansas State Highway Commission has such data in its mechanized system and the

ITEM	LEVEL	POSSIBLE SOURCE & UPDATE FREQUENCY
		ability to periodically update the data from Field District Reports. This commission is the source and agency to input the information to the Planning Information System. It should include F. A. System identity, urban limits, county lines and route identity loss points.
HIGHWAY CLASS	CITY	The highway classification as to rural, urban, city, military and Federal Aid, non-Federal and Interstate is available from the Kansas State Highway Commission's mechanized program. This input, together with its maintenance of data with major changes is available to the Planning Information System.
HIGHWAY IDENTITY	CITY	The mechanized program of the Kansas Highway Commission maintains data as to the county number, route, section number, Federal Route - if applicable, From/To points. This will be the source for such data to the Planning Information System, together with their input on periodic and/or major change update.

The Department of Economic Development has an excellent opportunity to encourage a standard land use system for all levels by making urban planning grants to communities contingent upon adoption of the land system and the locator key to appliable levels. This is not to enforce data structure as a penalty, but to establish the full cycle of compatible data exchange between community, state and federal agencies for mutual benefit.

Rural areas cannot be excluded. The necessary data on land use of such areas can be derived by aerial photography, its analysis and the data input as to classification, and then incorporated. For this report, the Highway data is included as a part of the visualized "Land Use Sub-System".

Currently, the Kansas State Highway Commission is primarily concerned with highway and road construction, motor vehicle registration, driver license issuance and a five and ten year highway and construction program. Besides the data generated by their own agency, they secure information

from such other departments, boards and agencies as the Department of Economic Development, the Board of Agriculture, the Park and Resources Authority, the Forestry, Fish and Game Commission, the Department of Revenue, Property Accounting and the Water Resources Board.

Although the Highway Commission's mechanization is very progressive, its data base need furnish only a limited amount of data to a planning information system. Highway "surface type" seems to be the data element of most common usage. Although a surprising number of agencies are interested in the maintenance cost of highways, the necessity of such data to their functional responsibility is questioned in most instances. In addition, since the individual counties bear most of the cost of road maintenance, combined data input is neither available nor practical at this time. It is more logical to have interfacing systems secure and provide data through sub-systems exchange than to consider many of the elements regarding highways as a part of a planning system.

HEALTH & SOCIAL RESOURCES

This category is a sub-system to itself and while its data file will encompass vital statistics, health and health facilities information, it is advisable to include environmental type data and to consider inclusion of social resources. Since a separate study has been made of the comprehensive health plan, reference should be made to the health study report in regard to the detail of data to be included. However, health data items as uncovered during the course of this study are discussed below.

The planning survey and agency contacts reveal common usage of such data elements as health facilities and vital statistics. The patient statistics are more confined between the health agencies, where they have considerable usage. There was a surprisingly low percentage of usage as to water requirements for human consumption, sanitation, sewage and related beneficial data. One would assume that environmental data must carry more weight and are used more often than voiced in this preliminary survey. While approximately forty-six percent of the agencies have need for health data in their operation

and the majority of remaining agencies voice consideration of health information as a matter of good practice, the frequency of need is divided between weekly, monthly and intermittently. There are at least three agencies whose use of health data is statutory.

Approximately forty percent of the users will be satisfied with estimate type accuracy. The remainder will require accuracy within a plus or minus five percent error to minimum error.

In the development of the sub-systems, consideration should be given to placing social resource data and population data under the same sub-system control. There is considerable statistical information generated from population breakouts by health care, percentage of population married and divorced, aid by various types of social assistance and social services, and like elements that would be included in a basic social resource program. Since, in such a system, the program segments would be easily definable for retrieval and/or manipulation within the program, the data is not confined and, if so designed, can be interfaced for data exchange with other sub-systems.

The data items and projections that a Planning Information System will expect from Health and Social Resources are shown in the list that follows. A desired level of detail and update frequency is shown. As previously mentioned, the Health study should determine whether the Health Department, Department of Social Welfare or other organization has been selected as the source.

ITEM	LEVEL	POTENTIAL SOURCE	FREQUENCY
Communicable Diseases	Establishment	Dept. of Health	Monthly Aggregate by type
Immunization	Establishment	Dept. of Health	Monthly Aggregate by type
Sanitation & Water Requirements for Human Consumption	City (or lower)	Dept. of Health & Water Resources	To be determined
Outpatient Projection	Establishment	Inst. Mgmt. - SDH	Annual
Patient Type (Aggregate of Patient Types under licensed health care)	Establishment	Dept. of Health	Monthly, if practical
Dependent Children on State assistance (Aggregate number & state dollar cost)	County	Dept. of Social Welfare	Monthly
Old Age Assistance	County Welfare	Dept. of Social Welfare	Monthly
Blind Assistance (Aggregate number & State dollar cost)	County	Dept. of Social Welfare	Monthly
Disability (Aggregate number & State dollar cost)	County	Dept. of Social Welfare	Monthly
Delinquency	City/County	Arrest Records - Police courts & records as compiled by KU/KBI reports	Monthly Summary
Mental Illness and Retardation	Establishment	Federal Inventory with its suggestion & deviation data. Social Welfare-Institutional Management	Annual, with the aim for more frequent
Marital Status Totals or percentage married, divorced, single (Projection development needed)	County	Revenue, Vital Statistics, U.S. Census	Annual
Divorces	County	Vital Statistics	Monthly

ITEM	LEVEL	POTENTIAL SOURCE	FREQUENCY
Marriages	County	Vital Statistics	Monthly
Births - By Sex	County	Vital Statistics	Monthly
Births - By Race	County	Vital Statistics	Monthly
Deaths - By Cause	City	Vital Statistics	Monthly
Health Facilities (Summary of State licensed centers, institutions & private care) Needs further development and inclusion under the state Health Plan Study & Resulting Program.	City	Division of Institutional Management. Some via Social Welfare	Monthly
Hospitals (Location & capacity of all general hospitals - excluding those designated for Mental Health or Chronic Disease)	County	Health Department Hospital Division thru coordination with Kansas Health Association.	Monthly

Demographic Information

A separate study for a Demographic Information System has been conducted by Dr. DiSanto at Kansas State University. There has been coordination between this consultant and Dr. DiSanto to discuss the data elements desired by the agencies and the problems to be encountered in securing reliable and current data due to the inadequacy of the annual Kansas Census and the varied nature by which such data are accumulated. Since it is not desired to encroach upon that separate study and its findings, it will suffice to say that data sources and collection procedures were reviewed and the interrelationships between the Demographic System and a Planning System were known to both study groups. The Planning survey and agency contacts showed that most common data needs concerning population statistics are at the following levels:

State	100%
County	95% (5% do not require lower level)
City	90% (10% do not require this level)
Regional	13% (87% do not require this level)

To get to the lower levels of population breakouts some agencies are using the U. S. Decennial Census. By a comparison of several past census reports a statistical analysis and trend can be determined.

Population projections are a requirement of eighty-seven percent of the state's departments, agencies, boards and commissions. While some desire projections for longer periods of time, the majority need projections at five year intervals from five to twenty years. There are cases, as in the example of reservoirs and other planning in the Water Resources Board, where projected needs for a fifty year range would be more adequate. Such long range needs are very limited. Projections to the city level will have considerable usage by the agencies and committees. Since the same users plus additional others need projections to the county level, the common usage percentage is still higher for county population projections.

According to the agencies surveyed, approximately twenty percent of the population data is statutory and seventy percent is part of agency operation in one form or another. The remaining percentage is occasionally used or referred to as a matter of good practice. Where used in operations, the accuracy should be within plus or minus five percent or at least have minimum errors. Population data usage is intermittent in seventy percent of the cases while the remaining thirty percent use these on a weekly or monthly basis.

Since the Kansas Annual Census is discussed at length in the Demographic Information System report, comment is confined to stating that the data now secured falls far short of adequate data needs. The data elements needed for the planning sub-system are listed in the common data breakout, Appendix "D".

The 1970 U. S. Census will be available to users in machine readable form. However, there will be requirements for computer programmer to process and extract the data. A state committee has investigated the data access and users inventory that will be available, along with the requirements necessary to utilize the U. S. Census data base extractions.

The data base with its many information cells and summary tapes will have greater detail and flexibility for cross-tabulations. Small geographic areas such as census tracts and blocks will be identified as part of the regular tabulation program. However, it has not been specified at this time how much of this flexibility will be applicable to Kansas.

Besides the tapes available from the U. S. Census Bureau Centers, there will also be available printed reports which will include data summaries. Tabulations available on the printed page will also be available on tape and microfilm copy created from tape. There will be a Census User Dictionary identifying available tabulations, and seminars and workshops on census data access. Special services that will be available include special tabulations, a variety of public use samples, computer-produced analytical reports, matching studies, and computer graphics. It is intended that these programs will

enable users to know what is available and how to obtain desired data.

Many of the data items for which there was a need expressed by many departments and agencies cannot be obtained or maintained at this time. A list of these data has been delivered to the Department of Economic Development separate from this report.

The following desired population data items will be available from the 1970 Census:

School or college enrollment (public or private)
Years of school completed
Number of children ever born
Relationship to head of household
Occupation, industry and class of worker
Income last year
Wage and salary income
Self employment income
Employment status
Hours and weeks worked last year
Vocational training completed
Age, sex, race, marital status
Year moved into this house and place of residence five years ago

Among the housing related data collected and available will be:

Number of units at this address
Condition of housing unit
Number of rooms
Water supply
Tenure
Commercial establishment on property
Value
Vacancy status and months vacant
Year structure built
Land use for farming
Farm residence
Source of water
Sewage disposal

Relatively few questions will be asked of all individuals, so only a portion of the 1970 census will be on a complete count or a one hundred percent basis. Age, race, sex, relationship to head of household, number of units at this address, condition of housing units, tenure, commercial establishment on property, value and vacancy status will be on a complete

count basis. Most other items about people and housing will be based on sampling techniques.

The Bureau of the Census is not responsible for establishing the boundaries of most geographic areas for which it generally tabulates data. A general problem for historical analysis at future dates is that boundaries change through time. Geographic areas of all sizes are affected. In order for the user to compare areas at two points in time, it is necessary that a plan permitting the necessary adjustments for comparability be built into the system design.

A more comparable map series on which the 1970 Census is based will be available from the Bureau. In addition, a Metropolitan Map Series will be available, including a map for every Standard Metropolitan Statistical Area, all to a common scale. Maps at a scale of one inch to 1600 feet, adding urbanized area, census tract and block boundaries will be available shortly after the 1970 census. Errors may exist in the maps since street changes may be made after the maps have been prepared.

When considering items for the systems inclusion that are related to social resources, labor and educational data should not be overlooked. The Econometric Model for the state of Kansas will continue to require data fed in from the Kansas Department of Labor System. Basic workforce data and labor demand-labor supply indicators that should be useful for planning are available through educational institutions and appear to need closer ties and usage. It would appear that in many instances training should be geared more to projections of future skill needs rather than relying on the demands of today continuing. Although educational data is primarily in the realm of Public Instruction and Vocation Education, such a sub-system will need to be related to and interface with other systems for data exchange. In this instance, Kansas is one of a group of states working as a team toward compatible data item identification, coding and listing. This explanatory endeavor will, if established, allow data exchange for purposes of comparison to show if and when various types of upgrading is needed. As far as a Planning Information System is involved, few data elements regarding education as a basis for economic development may be utilized, but the

ability to draw data from the sub-system containing the educational detail would be necessary. As an example, Vocational Education should be able to compile lists or make projections of the number of entry workers to the labor force from vocational and AVTS schools. This should be useful to the Department of Economic Development in its inducements to prospective new businesses and industries to locate in Kansas.

Data relating to the availability of schools and size in relation to number of buildings, rooms and teachers would be utilized to a limited extent in various planning efforts and is basic in the state's school planning programs. The data is available through Public Instruction which has data down to the detail of students per room, number of student transfers, number of resident and nonresident, on the basis of enrollment from kindergarten through twelfth grade and in many cases through Junior College.

Once the states have jointly determined the data items to be standardized and the procedure established for their use, the planning sections should be given the opportunity to view and determine if some of the new elements have beneficial use in their functions, or at least to become aware of any new data additions.

The common usage items that are available to a demographic system and needed as well for the Planning System are:

NAME	@ INDIVIDUAL LEVEL	Available from and maintained annually by the annual Kansas Census, currently - Dept. of Agriculture, proposed - Dept. of Vital Statistics.
ADDRESS	@ INDIVIDUAL LEVEL	Available from and maintained annually by the Annual Kansas Census.
AGE	@ INDIVIDUAL LEVEL	Available from and maintained annually by the Annual Kansas Census.

"SEX" is needed by both mentioned systems. It is assumed that the importance of the data will bring about the necessary legislation to include this item in future enumerations.

The demographic programs will be the source of population projects. They should provide for "NET MIGRATION" by county, and if possible by city. By the same means and the same programs, the data as to "FAMILY SIZE" should be secured. These are necessary items in the Planning Information System.

There are several other data items that are considered necessary for planning purposes. These could be included in future enumerations when legislation dictates. The items are "RACE", "BIRTHPLACE" - (State of Birth), and "RESIDENCE - PREVIOUS YEAR". While there is mixed reaction among agencies as to "RACE" data, the reasons advanced for its inclusion are realistic and should be considered. Planning for the assistance required to upgrade the standards of some portions of our society requires identification of the segments requiring assistance.

WATER RESOURCES

In this category falls the data relative to water activity, from water planning for conservation, flood control and water quality control to current water demands and projected water needs. Ample data exists. Much of the data is for internal planning uses, but all would be available for sub-systems interfacing. As in the case of reservoirs, long range planning and substantial justification of projected needs must precede Federal aid. Data exchange and projection models will also benefit the Water Resources Board's efforts.

Some data elements are not confined to the state level. The Department of the Interior is involved on river basins and river mileage, quality and quantity. Watershed data is secured through the Soil Conservation Service and soil conservation districts.

As far as it is known, this data is statutory in only the one agency but fifty percent of all agencies have a need for water resources data on an intermittent basis. Minimum error is sufficient accuracy. While the location of reservoirs and other water activities are the most common data needed, such items as water location, industrial, agricultural and munici-

pal usage rates, value and quality are occasionally used by certain agencies. General economic growth and economic expansion will create an ever increasing need for water, summarized by major water use categories, and this should be available to the planning sub-system.

The Kansas Geological Survey produces data and reports that are relative to and beneficial for the economic development of Kansas. Most of the geological data is in the form of maps, bulletins, open-files, or published and it concerns land and bedrock, ground water and surface water, oil, gas and other mineral resources. Special studies have been made in the Geological Survey that determined the dollar value generated by the Kansas Petroleum Industry; the economic aspects of underground storage of natural gas in the Kansas River Basin, and other related subjects. These are valuable data, but unless updated by continuing research, they will not be sound for a future Planning Information System. The greatest data needs for the Planning Information System are in the area of ground and surface water availability. Should the land use system be developed, the Geological Survey will gain still more importance. This data is discussed at this point rather than under Land Use due to the close tie with water resources and the relationships of the Kansas University data to agency data usage.

In addition to the support that the Geological Survey offers to the Water Resources Board, the Survey also offers support to the Department of Health, the State Board of Agriculture and, through its mineral resources study and research, adds to the potential economic development of the state. The Survey is alsc involved in cooperative programs with the Kansas Corporation Commission. The role of the Geological Survey appears to be that of continuing to provide important data and research findings to the many state agencies. However, this role does not constitute a subsystem in itself.

The data fields and projections regarding water resources, as needed in the Planning Information System, are noted in the following list:

ITEM	LEVEL	POTENTIAL SOURCE & FREQUENCY
Water Quantity & Quality - River Basin Areas	STATE	This data is available from the Water Resources Board which works in conjunction with the Department of the Interior and the Corps of Engineers. The data is updated to with major changes and can be considered reliable data for the planning system.
Water Quantity & Quality - Watersheds	REGIONS	Reliable data available from the Water Resources Board, working in conjunction with the Department of the Interior and the Corps of Engineers.
Ground Water (Location & Usages)	REGIONS	This data should be secured from the Water Resources Board which receives updated data through their engineers and the district reports. Such reporting will guide the update frequency depending on the size and nature of the change.
Surface Water (Location & Usages)	REGIONS	Secure this data from the Water Resources Board. The update media are engineers and district reports to the Board and the update frequency will be guided by the size and nature of changes as reflected in the reports.
Reservoirs (Location & Estimated Gal. Size in Units)	REGIONS	The source is the Water Resources Board. The update maintenance and frequency is through the medium of district reports.
Rainfall & Temperature Averages, by month	REGION OR DISTRICT	This data is from the Water Resources Board which works in conjunction with the Department of the Interior and Soil Conservation Districts. They are their own maintenance source. The frequency needed is monthly.

The following water resource data are also needed for the Planning Information System. Although surveys have been made on the items and the data now exists to some extent, there is currently no assurance that the data will remain updated in the future. It is therefore listed, but segregated until maintenance can be assured:

ITEM	DESIRED LEVEL	POTENTIAL SOURCE & FREQUENCY
Water Usage: Industrial & Municipal	CITY	There have been past surveys conducted by the Water Resources Board and the Office of Economic Analysis, so the data exists. There would need to be a periodic follow-up to maintain the data on an annual or other cyclic basis.
Irrigation Areas	REGIONS	This can be defined as a generalized picture for planning purposes of the "irrigation dependent areas" and the potential sources of water. As mentioned, this is a type of information that is needed, but not a data field. The Water Resources Board, working with Geological Survey is the logical source. The frequency need could be on an annual basis.
Water Buildup Trends (Surface & Watersheds)	REGIONS OR DISTRICTS	This can be secured by the Water Resources Board in conjunction with the Soil Conservation Service. It is a type of data, not a specific data field. The median of update and frequency is hinged upon the District Reports.

ECONOMIC INFORMATION

As noted in the Planning Design Studies, "The fundamental goals of the economic information system are to describe and analyze the structure of the Kansas economy and its linkages with the rest of the national economy." The econometric model for Kansas has been developed and will supply valuable data to the agencies. The data base will be maintained through inputs from various governmental agencies, plus field sampling. There are agreements between the Office of Economic Analysis and the data sources that prohibit disclosure of information other than on an aggregated basis. The sectors covered in the model are:

Agriculture
Mining
Construction
Manufacturing
Transportation
Public Utilities
Retail Trade
Banking & Financial Institutions, Insurance and Real Estate

Services (Includes lodging, personal services, business services, medical and health services, both public and private educational services, research and development)
Government and households

The data items available in the economic model are available from either the sales or purchases and form a pattern for projections and planning. All are at the county level and the source of the data is from the Office of Economic Analysis which obtain the information from the sectors by cross section survey and periodic call-back. The available data items are:

SALES, BY SECTOR - PURCHASES, BY SECTOR

SECTORS:

Corn
Gas Service Stations
Sorghum
Other Grain
Dairy Products
Cattle
Forest Products
Other Retail
Finance Institutions
Lodging Services
Medical and Other Health Service
Research and Development
Crude Petroleum & Natural Gas
Non-Metallic Mining
Maintenance & Repair
Heavy Construction
Meat Products
Grain Mill Products
Apparel & Related Products
Printing & Publishing
Agricultural Chemicals
Petroleum & Coal Products
Cement
Other Stone
Primary Metal Industries
Other Fabricated Metal Products
Construction Machinery & Equip.
Electrical Machinery
Motor Vehicles & Equipment
Railroad Equipment
Other Transportation Equipment
Railroad Transportation
Water Transportation
Pipeline Transportation
Communications
Hogs
Soybeans
Wheat
Hay
Poultry
Other Agricultural
Eat & Drink Places
Banking
Insurance and Real Estate
Personal and Business Services
Education
Other Agricultural Services
Oil & Gas Field Service
Other Mining
Building Construction
Special Trade Construction
Dairy Products
Other Kindred Products
Paper & Allied Products
Industrial Chemicals
Other Chemicals
Rubber & Plastic Products
Concrete & Plaster Products
Clay & Glass Products
Fabricated Metal Products
Farm Machinery & Equipment
Food Products Machinery
Other Machinery
Aerospace
Trailer Coaches
Other Manufacturing
Motor Freight Transportation
Air Transportation
Other Transportation
Electric

Gas & Sanitary Services
Raw Materials - Farm Products
Grocery & Related Products
Other Wholesale Trade

From these information fields, the Kansas Gross Product will be obtainable. The value added to the state by total manufacturing can be derived.

INCOME INFORMATION

There is another type of socio-economic data that will need to be made available to a Planning Information System. It is available but at present is not obtainable from the Department of Revenue. Additional data appearing on the State Income Tax form would need to be key punched and the program master updated to handle them.

Because of planning needs, the items concerning INCOME are herein noted. The frequency of update and the update source is the annual State Income Tax returns.

Income Average - By Sector (Aggregate and Average)

Income Average - By Geographic Location

Income Average - By Sex and/or Group

Income Average - By Farm Type

Income - Immediate Family Total, same location. (This would be valuable to such agencies as social welfare, but may not be economically feasible to obtain.)

RECREATION INFORMATION

Three years ago a state-wide "recreation inventory" was made. Since then, an examination of the existing system of the inventory record maintenance revealed that this data was not adequately maintained and that it was not compatible with a Planning Information System.

At the present time, an Outdoor Recreation Plan, Scenic-Historic Recreation Plan and the Kansas tie-into the Lewis and Clark Trail Development Plan is in process. Since recreation is not only a good environmental factor for

a healthier and happier state, it is part of the planning information to enhance the economy of the State. Prospective new industry will be influenced by the availability and component activity types of recreation facilities near the areas under consideration. Such availability aids in attaining and retaining a work force. Further, more tourists' dollars will be added to the economy and many vacation dollars of state residents remain in the state if the recreation activity is of inducive quality.

Under the Scenic-Historic recreation planning study the historic and scenic recreation resources of Kansas will be identified and study made of their existing and potential recreational value. Under separate report the results will be elaborated upon together with the action required to develop these resources. The Missouri River Recreation Area and the Lewis and Clark Trail will be examined in detail and a generalized development plan for the area prepared.

The inventory of public and private recreation resources of Subregion 112 of Region 11 and Subregion 011, Region 01 has been conducted. The data is to be maintained and updated by park and resources so that it will not be necessary to expend large amounts of time and money periodically for new inventories. The recommended changes to the system, the change in the facility survey forms and survey input formats have been developed and were used for the pilot run in the mentioned regions. The method for sampling citizen preference and desires in recreation has been devised and given pilot use.

What has been performed for the above mentioned regions and sub-regions should be accomplished on a state-wide basis. The same forms, procedure and program will apply. In Kansas' development, the recreation facilities and the components of same will continue to expand. The planning for such expansion merits the listing of data items available from the "recreation" system. The source of such data is the Park and Resources Authority and the updating media on a periodic or major change frequency is through the public and private sectors. The data items are:

Fishing - Location, type of fish at that location and the services available.

Beaches - The number, location, size and services available.

Swimming Pools - The location, number of pools, square feet and data as to the availability of lockers and equipment service.

Facility - Location, type, ownership and operations.

Stadia-Amphitheater - Location and capacity.

Firearm Fields - Positions per target range.

Traps-Skeet - Number, by location.

Game Fields - Location and size.

Recreation Excavations & Displays - Location and whether Free or Fee.

Skiing - Location, type, length of slope.

Tobogganing & Sledding - Location and cleared slope length.

Sport Field Services - Equipment rental and locker availability.

Ice Skating - Location, type as to artificial or natural ice, size, free or fee.

Exhibit Buildings - Location, size, free or fee.

Roadside exhibits, towers, platforms - Location and number of same.

Campsites - Location, capacity, whether designated as public or private.

Transient Trailer Parks - Location and number of sites.

Recreation Facility Cabins/Motels - Location, number, capacity.

Lodges - Location and capacity.

General Picnicking Areas - Location and number of acres.

Group Picnicking Sites - Location and capacity.

Children's Playgrounds - Location and number of same.

Tennis Courts - Location and number of courts.

Handball Courts - Location and number of courts.

Basketball Courts - Location and number of courts.

Golf Courses & Practice Areas - Type and number, by location.

Developed Nature Trails - Location and length.

Horse Trails - Location and length in miles.

Bicycle Trails - Location and length in miles.

Motorcycle Trails - Location and length in miles.

Foot Trails - Location and length in miles.

Horse Rental & Stable Service - Location and numbers.

Upland Game Habitats - Location, size, service.

Big Game Habitats - Location, size, service.

Waterfowl Habitats - Location, size, service.
Minature Golf - Number available & free or fee.
Boating Facilities - Location and availability of ramps, slings, and assist.
Marina Services - Location, number of slips, equipment, services, number of snack bars.

The planning survey and agency contacts show that recreation facility information is utilized by nine agencies. In two instances, the need is statutory with the remainder using the data as part of their operation or as a matter of good practice. For statutory requirements, accuracy should be maximized. The extent of the current survey and the quality of information so secured will give such accuracy.

Appendix "G" depicts the basic file format for the recreation facilities inventory. The inventory for eight Northeastern counties has been completed and machine processed to printed report.

In addition to the facilities information, a sample of recreation uses for the same counties has been completed. A representative sample of city parks, county parks, state parks, quasi-public and private recreation areas within each county were selected. Further, the facilities selected within a county were fairly evenly dispersed.

The user survey was by interviewing persons entering the various facility complexes and covered weekday, Saturday and Sunday traffic. The data collected included the various age ranges of the visiting parties, the primary and secondary activities in which they planned to participate, the family income salary range - or individual income range if not a family group, the approximate travel time from the origin of the trip to the facility, and other similar data. Regression models of this user data have been completed and have been used to help calculate the demand for outdoor recreation.

Conclusions Reached from Survey Results

The conclusions reached are tentative at this point because of certain events that have occurred since the study began. Initially, Health, Welfare and

Educational information was included as a part of the Planning Information System. In one of the early data coordination meetings it was discovered that the Department of Public Instruction was well along with an educational information system in cooperation with twelve other midwestern states. The system had been designed and one sub-system was soon to be implemented. In addition after the initial surveys were completed, the Health Department, in conjunction with the Regional Medical Program Office, initiated a Health Information systems study. The Lockheed Corporation was granted a contract for a requirements definition analysis. In the interest of cooperation and to avoid duplication interviews in the health area were discontinued. Information that had been gathered was given to the Division of Health Planning.

However, the following conclusions should be noted:

1. At the time of this study survey there were numerous information system projects underway within the State of Kansas. By agreement and to avoid duplication, it was concluded that certain areas, noted above, should not be analyzed in this study.
2. The study revealed that there is an insufficient number of maintainable data elements of sufficient common usage and needed frequency to merit the cost of separate hardware/software for an isolated data base under the title "Planning Information".
3. The establishment of a data base for planning, administered and/or operated by the Department of Economic Development is inconsistent with the policies and actions of the Department to date. The design summaries state that it is the policy of the planning division to assist in defining goals and coordinating the planning effort rather than accomplishing planning for departments. Action to date reflects this policy. Therefore, the information systems efforts should follow these policies.
4. Standardization of file formatting, data key identifiers and software retrieval systems to allow for data exchange between departments is more logical. This is due primarily to the multitude of infrequently used data elements for the many aspects of planning.

SYSTEM CONCEPTS

Most of the research relating to governmental information systems has been accomplished at the municipal and regional level. There has been little theoretical research regarding state wide information systems. Systems research is relatively expensive and most of the funding has been from the Federal Government. Such research grants are usually funneled to local areas. There is definite need for more efficient local government, but in the establishment of local systems, the patterns of interaction with state functions are often overlooked. Governmental systems must be designed in such a manner as to accept information from and provide information to other governmental agencies. Ours is a three part structure of government - federal, state and local. Thus, the mechanization of any local application just to meet the needs of some specific federal agency financed program may tend to disregard information that should be integrated from the local to the state level. Usually the local data concerns land use, health, environmental and economic factors, population information, traffic and/or transit data that would be of benefit to state agencies as well as serve the local areas. In some cases, statutory requirements imposed upon communities provide necessary data, but much information collected through local agency surveys winds up in reports to federal agencies and is not made available for use as a data source for input to state systems. Such units as the Research Section of the Kansas Legislative Council, the League of Municipalities, Kansas Research Foundation, the Office of the Governor, the Department of Economic Development and other agencies, especially those involved in comprehensive planning should be sharing the data findings of the local level agencies. This will be

brought about only if the local systems give consideration to the potential use of the data elements by state agencies and an administratively responsible state position with adequate authority and resources, such as the state system analyst, functions efficiently.

The foundation of a successful system must be current, accurate data, updated on a continuous basis, that can be aggregated for local, regional, state and federal information needs.

HISTORY OF GOVERNMENT INFORMATION SYSTEMS

State and local governments have been increasing their use of computers for the past ten years. However, such use has consisted of little more than converting existing manual tab systems. In many instances, acquisition of computers appears to have been motivated by fashion or by severe budgeting constraints rather than by any real perception of what can be accomplished by conversion to computerized processes. The failure to maximize use of the computer's capability can be explained by the absence of resources both in terms of money and personnel. Research regarding conceptual approaches, systems analysis, and programming techinques are not only scarce, in terms of money, but also with regard to capable people.

In most cases management has approached the use of computers much like that of copiers, adding machines, etc. They have authorized procurement of computing hardware and then left it up to someone down the chain of command to figure out what to do with it. Traditionally, the higher priorities have gone to such applications as payroll, accounting, and billing operations. All these applications have been approached as isolated functions with little interfacing. As a result files contain only that information required to prosecute a very limited function. As the result

of such a practice, planners and administrators were denied the use of computers to assist in the total management functions.

Faced with this limited effectiveness of computer usage with regard to information processing, planners and administrators began seeking ways to store, manipulate and retrieve information for planning purposes. The initial major thrust in this area was the "Metropolitan Data Center Project". This project was conceived by Urban planners who obtained a research grant from the Department of Housing and Urban Development in 1962 for the purpose of studying the use of computers in the planning process. The result of this project was the establishment of a bank of planning data, relating primarily to land and its use, and a computer program to maintain and retrieve the information. There were no formal means of maintaining the information base established except for field inventory.

This project, weak as it was, pointed the way for information systems development during the past ten years. There have been numerous 'data banks' established across the country. Most of them have failed due to their inability to economically maintain the information. In addition, the data bases have not proved to be relevant to the decision making process. The same procedures have been followed by most planners since the MDC project. However, the composition of the information base has varied depending on the priorities of the agency sponsoring the work.

Mr. Myron E. Weiner, in a paper presented to the American Institute of Planners in 1968 stated, "The field of urban information systems has reached a stage where those involved in its development are searching for a strategy that will serve as a practical guide for the next ten years." It seems that such a strategy has been developed with the publication of a document entitled "Municipal Information and Decision System Research Project", by

the University of Southern California, School of Public Administration. This document emphasizes the necessity of automating the base functions of an agency in order to obtain relevant and maintainable decision making information.

As a result of this project the Federal Government is sponsoring research based on the Southern California approach. There are several cities across the country that are developing total or partial urban systems.

Langston, Kitch & Associates, Inc. research in this local area verifies the validity of the Southern California approach. One of the studies that has helped to verify this approach is the Land Use Information System for the Wichita-Sedgwick County Metropolitan Planning Department. The initial contract with WSC-MAPD stipulated the design of a data bank similar to MDC and others. There was a requirement however, to develop sources and procedures for maintaining the data base. As a result of the first phase of the study it was determined that the feasibility of economically continually maintaining a base of planning data is dependent upon the ability to utilize the base function of assessing and taxing real property. It has been estimated that to maintain a base of approximately forty data elements by field survey would cost approximately $200,000 annually. By using the county assessor's appraiser and population enumerators the same data can be maintained for approximately $57,000 annually.

Research conducted in this study indicates that the utilization of base functions to provide planning information is also practical at the state level. There are certain problems associated with automating base functions in such a manner that the base files include information that is needed by more than one agency. These problems relate to organization and resources more than to technological capability.

CONSTRAINTS ON STATEWIDE PLANNING INFORMATION SYSTEM

The image generated by the term information system is usually that of a conglomeration of computers hooked together by communication lines. It is not often that a vision of people, computing hardware, and an organized data base all functioning as a unit is seen. Yet an effective information system must contain the proper blend of each. There is computing hardware available to accomplish infinite data handling tasks. However, without an information base that is timely and relevant, such capability is of little value.

When viewing the various state agencies from a functional standpoint one can see that the state engages in a variety of related and unrelated functions. These functions vary from supplying education to citizens to supervising the construction of buildings. All these functions become related in terms of services to citizens but each have an intermediate end in themselves.

The organization in which these functions are performed is archaic and unwieldy. Most of the state's operating agencies are controlled by commissions. The governor appoints these commissions but they are not always under the governor who appoints them. Therefore, they are not always dedicated to the programs of the chief executive. Each agency has its own mission to perform and it is difficult for them to relate to any other objective. They are committed by statute to accomplish certain functions. Legislative edicts carry with them such authority and finality that those functions called out by the statute are the all-consuming purpose of the organization. Such statutes have rarely been thought through in terms of their effect on the total state functions.

These two problems, i.e., the wide variety of activities and the unwieldy organization of Kansas State Government make it difficult to establish a statewide system of any kind. Evidence of these problems are visable from the survey conducted. At present a considerable amount of data duplication exists. This is indicated by the fact that there is a great degree of commonality of expressed needs, yet most of the agencies generate the data they use. In addition there is an extreme variation in the degree of sophistication in data handling techniques from one agency to another. Some agencies are employing sophisticated computer systems while others process data entirely manually.

There are basically two approaches to the development of information systems: (1) The piecemeal approach and (2) The integrated/total approach. There have been many arguments regarding the merits of each approach. Some feel that the piecemeal approach impedes the development of integrated systems, while they in themselves are not comprehensive. There are also those who will maintain that no dichotomy exists between the two approaches. The following quote from a paper presented at the American Institute of Planners in Pittsburg on October 14, 1968 by Myron E. Weiner, elaborates on this subject.

> "Is there a dichotomy between the piecemeal and the integrated comprehensive approaches to the development of Urban Information Systems? The more one becomes familiar with the field, the more he is convinced that no such dichotomy exists. It would be nice to tell everyone in the field to do nothing for ten years while Research and Development of a total system could be undertaken; but no technology evolves in this fashion. Even with a complete set of specifications for Urban Information Systems, the approach would be that which most

of us are coming to recognize - - - piecemeal evolvement of a plan for integrated municipal information systems. At the present time the plan to be used can only be based on systems guidelines, not detailed specifications. But this is the only logical option today; it also calls forth the second most important specification for the plan today - - - maintenance of a flexible position in the incremental, evolutionary development so as to utilize all the benefits of new concepts and hardware and software improvements as they occur." 4

The State of Kansas has progressed in this fashion with regard to information systems development. Although there is now federally sponsored research encompassing the total integrated approach at the municipal level, the State of Kansas will, of necessity, proceed along these lines.

Only limited resources are available for the development of information systems and the process leading to a total integrated system is long and costly. As Mr. Weiner points out we cannot ask the various state agencies to wait for a total integrated state wide system. It is imperative that some of the more pressing needs are met at once.

A total statewide system with common files and on line processing through terminals may be a desirable future goal but we feel that a sub-system or piecemeal approach is more practical at this time. This is due, primarily, to the considerable variance in the degree of mechanized information handling capability among the state agencies.

4 Unpublished Paper: Trends and Directions for Urban Information Systems: Myron E. Weiner; Municipal Information Technology Program, Institute of Public Service, University of Connecticut. October 14, 1968, p. 19.

The one thing that is urgently required by the state is that guidelines be established for the development of information systems. We do not anticipate that specific detailed ground rules be followed by those implementing information systems are needed. Such guidelines should be developed around the concept of utilizing base functions to provide planning information for various agencies.

There are numerous examples of applications proposed for automation which if done properly could provide planning data for other agencies. One example of such an application is the centralized welfare system. Information with regard to living conditions of the poor is the most difficult category of information to obtain. It would be unfortunate if considerable resources are used for this application without an analysis of the needs of others.

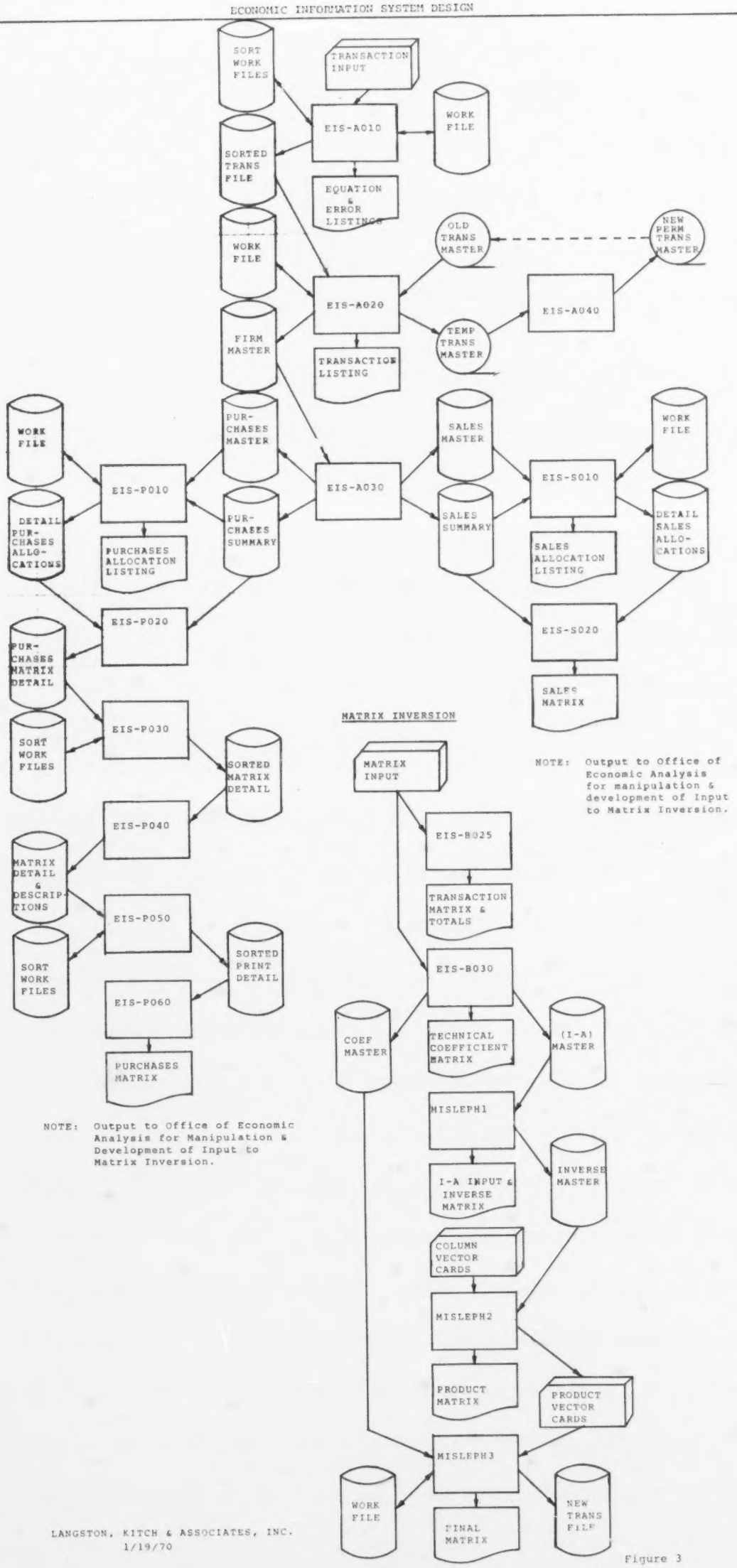
SYSTEM DESIGN ELEMENTS

A part of the contract with KDED was the requirement to oversee and provide consultation with regard to the methods used in collecting data for two other studies. The studies were Recreation and a Demographic Information System. In addition, Langston, Kitch & Associates, Inc. designed and programmed an economic information system for the Office of Economic Analysis. This chapter describes the design of the Economic Information System, and the coordination and design of the recreation and population systems.

ECONOMIC INFORMATION SYSTEM - Figure 3 depicts the design of the Economic Information System. The data survey chapter describes the base file contents. This data was developed by the Office of Economic Analysis. The procedure for establishing the data base involved field interview plus extraction of data from the files of the Employment Securities Division and the Department of Revenue. The files will be maintained by sampling industrial firms on a yearly basis. Selection of firms to be interviewed will be based on how much change is indicated in the firms basic business statistics. The master file consists of card images on disc sorted by county within economic sector. File maintenance, through program EIS-A010 allows changes to be made to any or all of the data fields of a given firm.

The system consists of two basis functions: (1) the ability to maintain and screen the data base and (2) the ability to apply matrix algebra to the data matrices.

The first portion of the system utilizes the sales and purchases information to produce original matrices for each. In some cases there are manual



LANGSTON, KITCH & ASSOCIATES, INC.
1/19/70

Figure 3

operations required to adjust the data. This is due to the manner in which the original data was collected. The original matrix is then input to the inversion system. The inversion system utilizes this input to produce a transaction matrix with totals, a technical coefficient matrix, product matrix and a final matrix depicting economic impacts by sector.

RECREATION INFORMATION SYSTEM - Another application overseen was the establishment of a methodology for a recreation information system. The effort to be undertaken in this study involved the development of a procedure and input forms for a facility inventory and a user survey. The consultant's primary responsibility was to insure that the data was collected and recorded in such a manner that it would be compatible with other data bases being developed.

The field forms used to record facility inventory information are included as Figure 4 and Figure 5 and show the field form for recording user information. The report on outdoor recreation entitled, "Outdoor Recreation Planning for Kansas" contains the detail instructions necessary to complete the forms. Care was exercised in the development of the key identification. It was imperative that these locators be compatible with other systems being developed. A unique problem arose in this regard since there are recreational facilities located both in the rural and urban areas. This presents a problem with respect to compatible locator coding. Most urban areas are using block numbers and census tracts for both location and administrative purposes. Such a scheme is practical for those recreation areas in the metropolitan areas but makes little sense in the rural areas. Although provisions have been made on the input forms for these identifiers, they have not been used in the initial survey. However, the allowances will insure that the master files will be compatible with other physical

51

RECREATION FAC

LOCATOR - OFFICE USE ONLY																								
COUNTY			CITY			UNIT		TRACT			BLOCK			FACILITY NUMBER				AREA						
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					

FACILITY BASIC	CARD NO.	NAME OF THE FACILITY COMPLEX	FACILITY RATING SHEET: Road To	Road Within	Water	Diversity	OFFICE U: INVENTORY DATE Month	Yr.	Longitude
1 2	3 4	25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	46	47	48	49	50	51	52	53 54 55
1 0	1 0								

FACILITY BASIC	CARD NO.	OWNERSHIP: Primary	Secondary	PURPOSE OF OWNERSHIP: Primary	Secondary	ADMINISTRATION: Governmental	Departmental	COMPLEX OPERATION	Entry To Complex	Sectio
1 2	3 4	25 26	27 28	29 30	31 32	33 34 35 36 37 38 39 40	41 42 43 44 45 46 47 48	49	50 51 52	53 54 55
1 0	1 1									

WATER ORIENTED	CARD NO.	BEACH: Component Rating Points	Rate to Nearest tenth	Developed Footage In Linear Feet	Operation Type	Snack Bar Number	Oper. Type	Locker Sev. Available	Oper. Type	Equip. Rental Available	Oper. Type	SWIMMING POOLS: Component Rating Points	Rate to Nearest Tenth	Surface Area in Square Feet of Water	Operation Type	Snack Bar Number	Oper. Type	Locker Sev. Available	Oper. Type	Equip. Rent Available	Oper. Ty
1 2	3 4	25 26 27	28 29	30 31 32	33	34 35	36	37	38	39	40	41	42	43 44 45 46 47 48	49	50	51	52	53	54	55
2 0	2 0																				

WATER ORIENTED	CARD NO.	MARINA: Component Rating Points	Rate to Nearest Tenth	Marina Slips Total Number Covered and Open	Number of Covered Slips	Oper. Type	Equip. rental Available	Sale Oper. Type	Boat Storage Number of Boats that can be stored	Oper. Type	Snack Bars Number	Oper. Type	Access Oper. Type	Water Body River	Creek	5 or less Acres	Over 5 Acres	Fishery Put & Take	Natural Repro.	Fish Type Variety	Chan-nel cat only	Carp & Bull-he	Pi
1 2	3 4	25 26 27	28 29 30	31 32 33 34 35 36	37	38	39 40	41	42	43 44 45	46	47	48	49	50	51	52	53	54	55			
2 0	2 1																						

TERREST-IAL DEVEL-OPMENT	CARD NO.	TRAILS: Trail Rating	Horse Trails Available	Number of Miles	Oper. Type	Foot Trails Available	Number of Miles	Oper. Type	Bicycle Trails Available	Number of Miles	Oper. Type	Motorcycle Trails Available	Number of Miles	Oper. Type	CAMPGROUND - Camp Sites Available	Component Rating Points	Rate to Nearest Tenth	Number of Acres	Operation Type	CAMPGROUNDS - Group Camp Available	Component Rating Points	Rate to Nearest Tenth	Number of Acres
1 2	3 4	25	26 27	28 29	30 31 32	33	34 35 36	37	38	39 40	41	42	43 44 45 46	47 48	49	50	51	52	53	54	55			
3 0	3 0																						

TERREST-IAL DEVEL-OPMENT	CARD NO.	HORSE STABLES (cont.) Number of stalls Available	TRANSIENT TRAILER PARKS Component Rating Points	Rate to Nearest Tenth	Number of Parking Sites	Operation Type	MOTELS - CABINS Component Rating Points	Rate to Nearest Tenth	Capacity in bed or overnight accomodations	Operation Type	LODGES Component Rating Points	Rate to Nearest Tenth	Capacity in beds or overnight accommodations	Oper ation Type	RESTAURANT - CAFE Component Rating Points	Number of Restaurants and Cafes	Operation Type	Com Point
1 2	3 4	25 26 27	28 29 30	31 32 33	34	35 36 37	38 39 40	41	42 43 44	45 46 47	48	49	50 51 52	53 54	55			
3 0	3 1																	

TERREST-IAL DEVEL-OPMENT	CARD NO.	GOLF - REGULAR Component Rating Points	Rate to Nearest Tenth	18 Holes	9 Holes	Par 3	Operation Type	GOLF - PRACTICE Component Rating Points	Rate to Nearest Tenth	Number of Putting Greens	Number of Driving Ranges	Number of Pitch and Put	Operation Type	Approximate Number of Parking Spaces	GENERAL AMUSEMENT AREAS Component Rating Points	Rate to Nearest Tenth	Miniature Golf Available	Number of Courses	Oper. Type	Pavilions Area in Square Feet
1 2	3 4	25 26 27	28 29 30	31	32 33 34	35 36	37 38	39 40	41	42 43 44 45	46 47 48	49	50	51	52	53 54 55				
3 0	3 2																			

INTERPRE-TIVE DE-VELOPMENT	CARD NO.	NATURE TRAIL Rate Points	Miles to the Nearest Half Mile	Oper. Type	EXHIBIT BUILDING AND MUSEUMS Component Rating Points	Rate to Nearest Tenth	Building Area in Square Feet	Oper. Type	Approximate Number of Vehicle Parking Spaces	Oper. Type	RESTORATION / EXCAVATION AND DISPLAY Component Rating Points	Rate to Nearest Tenth	Number of Such Sites	Visit Contr. Available	Operation Type	Approximate Number Vehicle Parking Spaces
1 2	3 4	25 26 27	28 29 30	31	32 33 34	35 36 37 38	39	40 41 42 43 44		45	46 47	48	49 50	51	52	53 54 55
4 0	4 0															

WILDLIFE DEVELOP-MENT	CARD NO.	WATERFOWL HABITAT: Acres of land developed to benefit Waterfowl hunting	Acres that are available to the Public	Operation Type	WATERFOWL BLINDS: Component Rating	No. of blind shelters (set location)	Capacity in number of people able to handle in tot. blind	Operation Type	WATERFOWL - Dog Serv. Available	Number of dogs available	Operation Type	WATERFOWL-Guide Serv. Available	Number of guides available	Operation Type	WATER VEHICLE EQUIP. Available	Number of special units available	Ope ation Typ
1 2	3 4	25 26 27 28 29	30 31 32 33 34	35	36	37 38	39 40 41 42		43	44 45 46	47	48	49 50	51	52	53 54 55	56
5 0	5 0																

WILDLIFE DEVELOP-MENT	CARD NO.	UPLAND GAME HABITAT: Acres of land developed and maintained primarily for upland game use and hunting	Acres that are available to the public	Operation Type	UPLAND GAME-Guides Available	Number of Guides Available	Oper. ation Type	UPLAND GAME - Dogs Available	Number of Dogs Available	Operation Type	BIG GAME - HABITAT: Acres of land developed and maintained primarily for big game use and hunting.	Acres that are available to the Public	Operation Type	Nu or per
1 2	3 4	25 26 27 28 29	30 31 32 33 34	35	36	37 38	39	40 41 42 43 44			45 46 47 48 49	50 51 52 53 54	55	56
5 0	5 1													

SPORT FIELDS	CARD NO.	GAME FIELDS: Component Rating Points	Rate to Nearest Tenth	Number of acres on which provisions are made for organized games: Football, baseball, etc.	Operation Type	Approximate number of vehicle parking spaces available.	CHILDRENS PLAYGROUNDS Available	Component Rating	Number of Units	Operation Type	GAME COURTS Component Rating Points	TENNIS COURTS Rate to Nearest Tenth	Available	Number of Courts	Oper. Type	HANDBALL COURTS Available	Number of Courts	Oper. Type	BASKE Avail able	Nu
1 2	3 4	25 26 27	28 29 30	31 32	33	34 35 36 37 38	39	40	41	42	43	44 45 46	47	48	49	50	51	52	53	54	55	
6 0	6 0																					

WINTER SPORTS	CARD NO.	ICE SKATING Component Rating Points	Rate to Nearest Tenth	Skating - Artificial Ice Number of square feet (Ice Formed by refrigeration)	Operation Type	Skating - Natural Ice Number of Square Feet (Natural freeze of water surface)	Operation Type	Ice Skating - Parking Approximate number of vehicle parking spaces	Operation Type	SKIING Component Rating Points	Rate to Nearest Tenth	Type Tow Rope	Disc	Number of Feet of cleared slope, or artificial slope	Operation Type	TOBO Compo nent Points	Nu or
1 2	3 4	25 26 27	28 29 30	31 32	33 34	35 36 37 38	39	40 41 42 43	44	45	46 47	48	49	50 51 52 53	54	55	56
7 0	7 0																

1 2	3 4	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47

1 2	3 4	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47

ON FACILITY INVENTORY

SIGNATURE:	INVENTORY DATE Month	Yr.

OFFICE USE ONLY

KY DATE Yr.	Longitude						Latitude					
52	53	54	55	56	57	58	59	60	61	62	63	64

ACREAGE

Ownership											Developed Land				
Total Land						Total Water									
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

	Entry To Complex	LOCATOR - FIELD USE																			
		Section			Township			Range													
52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

	Locker Sev.		Equip. Rental		Fac. Rating Sheet				BOATING														Water Skiing	Scuba Diving
Oper. Type	Available	Oper. Type	Available	Oper. Type	Life Guard	Diving Apparel	Water Treat.	Deck	Allowed	Operation Type	Boat Access Points	Boat Access Rate to Nearest Tenth	Boat Ramps Number	Boat Ramps Oper. Type	Boat Slings Number	Boat Slings Oper. Type	Ramp Asst. Available	Ramp Asst. Oper. Type					Available	Available
52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

Fishery	Fish Type			Pier or Dock		Heated Docks		Walkways		Guides																		
Natural Repro.	Varied	Channel Cat only	Carp & Bull-ho	Number	Oper. Type	Number	Oper. Type	Number	Oper. Type	Available	Oper. Type																	
52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

CAMPGROUNDS - Group Camps							STADIA - AMPHITHEATERS													HORSE BACKING				HORSE STABLES				
Component Rating Points	Component Rating Rate to Nearest Tenth	Number of Acres				Operation Type	Available	Component Rating Points	Component Rating Rate to Nearest Tenth	Capacity Approximate Number of Seats or Seating				Capacity Parking - No. of designated spaces				Oper. Type	Horse Rental Available	Horse Rental Oper. Type	Equip. Rental Available	Equip. Rental Oper. Type	Component Rating Points	Component Rating Rate to Nearest Tenth	Operation Type		
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

RESTAURANT - CAFE				PICNICKING - Designated										PICNICKING - Group													
Number of Restaurants and Cafes			Operation Type	Component Rating Points	Component Rating Rate to Nearest Tenth		No. of picnicking acres-need not have tables or shelt	Number of Grills	Number of Tables		Operation Type	Approximate Number of Parking Spaces		Component Rating Points	Component Rating Rate to Nearest Tenth		Number of Acres (may or may not have dining Fac.)			Operation Type	Approximate Number of Parki. Spaces					
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

GENERAL AMUSEMENT AREAS																												
Oper. Type	Pavilions Area in Square Feet						Oper. Type	Parking Approx. No. of Spaces			Oper. Type																	
52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

EXHIBITION AND DISPLAY							ROADSIDE EXHIBITS				TOWERS/PLATFORMS				FAIR GROUNDS (used for Rec.)													
Oper. Type	Approximate Number of Vehicle Parking Spaces					Oper. Type	Available	Number of Exhibits		Oper. Type	Available	No. of towers and platforms		Oper. Type	Available	Number of Acres				Oper. Type								
52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

Serv.	WATER VEHICLE EQUIP.																											
Oper. tion Type	Available	Number of special units available				Operation Type																						
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

HABITAT that are available to the Public					GAME BLINDS				BIG GAME GUIDES																			
Operation Type					Number of Blinds or tree stands (only perm. or portable)			Operation Type	Available	Number of guides available			Operation Type															
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

COURTS							BALL DIAMONDS				TRAPS (Skeet)					FIREARM TARGET RANGE				ARCHERY RANGE				EQUIPMENT RENTAL		LOCKER SERVICE	
HANDBALL COURTS Available	Number of Courts		Oper. Type	BASKETBALL COURTS Available	Number of Courts	Oper. Type	Available	Number of Ball Diamonds		Operation Type	Available	Number of Units		Number of Layouts	Operation Type	Available	Number of Units		Operation Type	Available	Number of Units			Available	Oper. Type	Available	Oper. Type
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

	TOBOGANNING & SLEDDING			
of Feet of clear-e, or artificial	Operation Type	Component Points	Number of Feet of cleared or manufactured slope	Operation Type
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

CODE

AVAILABLE - ALLOWED

1. YES
2. NO

OPERATIONAL TYPE (Components Within Complex)

3. FREE - CONCESSION
4. FREE - PUBLIC AGENCY
5. FEE - CONCESSION
6. FEE - PUBLIC AGENCY
7.
8.
9.

COMPLEX OPERATION

11. PROFIT
12. NON-PROFIT
13. PROFIT - MEMBERSHIP ONLY
14. NON-PROFIT - MEMBERSHIP ONLY
15. PUBLIC AGENCY
16.
17.

ENTRY TO COMPLEX

18. FREE
19. FEE

OWNERSHIP

21. FEDERAL
22. STATE
23. COUNTY
24. CITY
25. TOWNSHIP
26. QUASI-PUBLIC
27. PRIVATE
28. DISTRICT
29. OTHER

PURPOSE OF OWNERSHIP

30. SCENIC
31. SCIENTIFIC
32. HISTORIC
33. RECREATION
34. AGRICULTURE
35. FLOOD CONTROL
36. IRRIGATION
37. WATER SUPPLY
38. FISH & WILDLIFE
39. OTHER

ADMINISTRATION (GOV.)

40. FEDERAL
41. STATE
42. COUNTY
43. CITY
44. TOWNSHIP
45. QUASI-PUBLIC
46. PRIVATE
47. DISTRICT
48. OTHER

ADMINISTRATIVE (DEPT)

50. FISH & WILDLIFE
51. PARK & RECREATION
52. WATER AGENCY
53. FORESTRY
54. HIGHWAY
55. SCIENTIFIC/HISTORIC
56. INSTITUTIONAL
57. CLUB
58. OTHER

FIGURE 4

The preparation of this document was financed in part through a comprehensive planning grant from the Department of Housing and Urban Development.

KANSAS OUTDOOR RECREATION - USER SURVEY

FACILITY NAME: _____

SURVEYOR NAME: _____ DATE: _____

SURVEY CONSTANTS: _____ DAY OF WEEK CODE: ☐ 20

_____ Code: 1 Saturday

_____ 2 Sunday

_____ 3 Weekday

LOCATOR	COLUMN
FACILITY NUMBER	1 2 3
COUNTY CODE	4 5 6
CITY CODE	7 8 9
SECTION	10 11 12
TOWNSHIP	13 14 15
RANGE	16 17 18

PGM CONTROL (LEAVE BLANK) ☐ 19

TOTAL VEHICLES

VEHICLES ☐☐☐☐☐ 21 22 23 24 25

ORIGIN (ZIP CODE) ☐☐☐☐☐ 26 27 28 29 30

AGE OF INDIVIDUALS IN PARTY	
Under 13	31 32
Ages 14 - 18	33 34
Ages 19 - 25	35 36
Ages 26 - 40	37 38
Ages 41 - 64	39 40
Age 65 & over	41 42

TRAVEL PURPOSE - LENGTH OF VISIT

DESTINATION	43
ENROUTE	44
½ DAY - LESS	45
1 DAY	46
WEEKEND	47
PART OF VACATION	48

INTENDED ACTIVITY (Primary "P", Secondary "S", Tertiary "T")

P ☐☐ S ☐☐ T ☐☐ 49 50 51 52 53 54 55 56 57

NOTE: ENTER THE APPROPRIATE P-S-T CODES 01 - 31 IN COLUMNS 49 - 57

BICYCLING	☐	01	TENT CAMPING	☐	17
HORSEBACK RIDING	☐	02	GROUP CAMPING	☐	18
GAMES OR SPORTS	☐	03	HIKING	☐	19
FISHING	☐	04	PLEASURE WALK	☐	20
CANOEING	☐	05	NATURE STUDY	☐	21
SAILING	☐	06	PHOTOGRAPHY	☐	22
BOATING (OTHER)	☐	07	PLEASURE DRIVE	☐	23
SWIMMING	☐	08	SIGHT SEEING	☐	24
WATER SKIING	☐	09	SPORTS SPECTATOR	☐	25
HUNTING(SMALL GAME)	☐	10	SLED, TOBOGANNING	☐	26
HUNTING(BIG GAME)	☐	11	GOLF	☐	27
HUNTING(WATERFOWL)	☐	12	TRAP SHOOT	☐	28
CONCERT, PLAYS	☐	13	PLAYGROUND	☐	29
ICE SKATING	☐	14	OTHER (SPECIFY)	☐	30
PICNICKING	☐	15	OTHER (SPECIFY)	☐	31
TRAILER CAMPING	☐	16			

UNDER $3,000	58
$3,001 - $5,000	59
$5001 - $8,000	60
$8,001 - $12,000	61
$12,001 - $16,000	62
$16,001 - over	63

TRAVEL TIME

1 - 10 MIN	
11 - 30 MIN	
31 - 60 MIN	
61 - 120 MIN	
OVER 2 HRS	

FIGURE 5

inventories at the state and local levels.

The master file Appendix G consists of two segments: The facilities inventory segment and the user inventory segment. The data gathered for the sub region 112 of region 11 and sub region 011, of region 01 has been transferred to magnetic tape. The data is on tape in card image form and has been utilized to produce tabulations, samples of which are included as Appendix H and I. The data has also been utilized to conduct multiple regression analysis for assistance in determining the consumption of outdoor recreation for the same area. Complete documentation of this analysis is available in a document entitled, " Outdoor Recreation Planning for Kansas," produced for the planning division by Oblinger-Smith Corporation.

Figure 6 reflects the basic design concept for utilizing the methodology developed in the report called out above. The concept is based on utilizing the data base to assist in making long range as well as short range decisions. The diagram includes areas of work that have been accomplished as well as work that is yet to be undertaken.

The total system is visualized as a series of functions performed both manually and electronically as a result of the need for either developing a long range statewide program or evaluating a given application from a local area. The requirements for accomplishing the functions are (1) a valid base of information and (2) computer software and hardware to assist in the manipulation process. The data base will consist primarily of the facility inventory and user survey. However, other information such as economic base studies and population studies would be utilized in the analysis process.

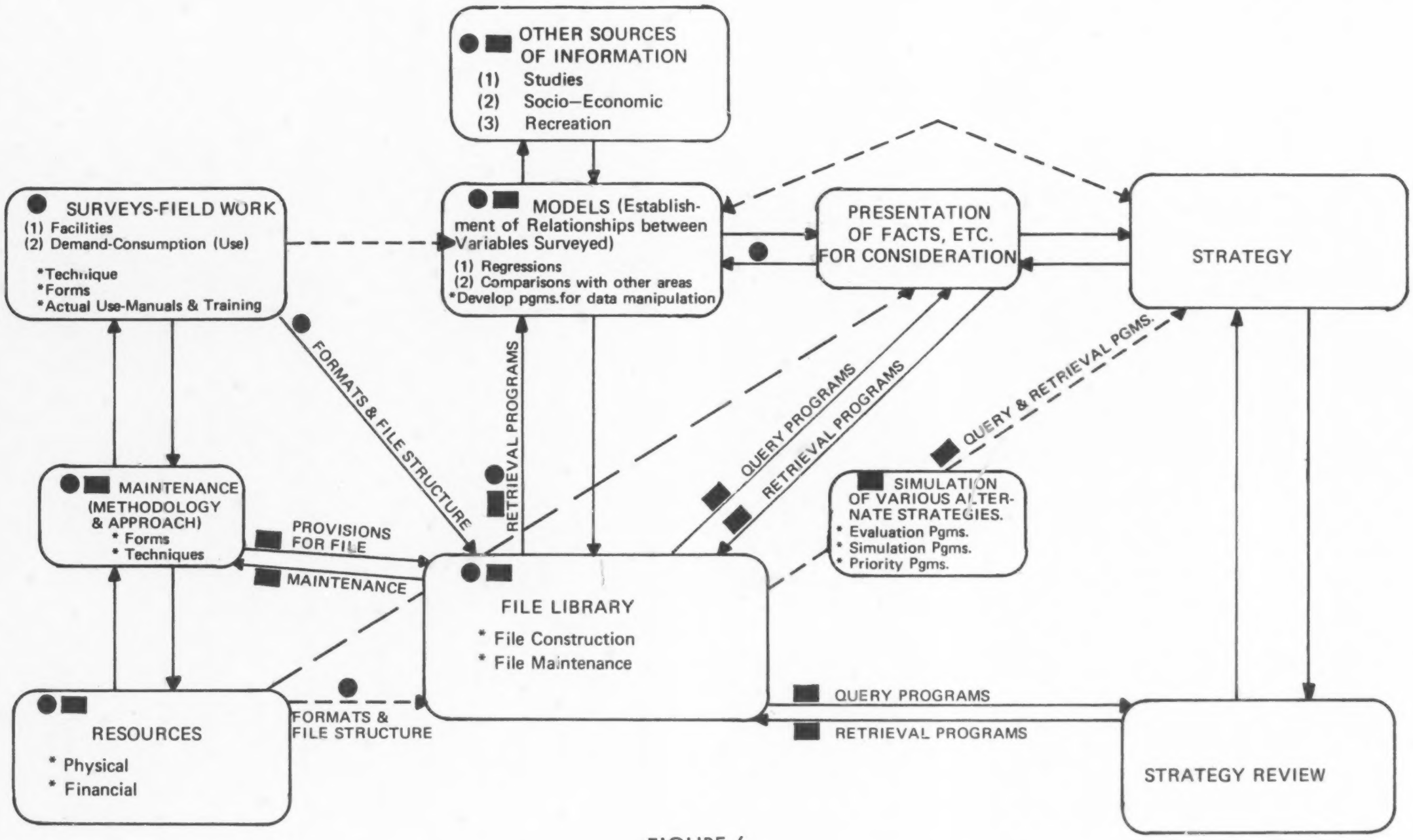


FIGURE 6
RECREATION SYSTEM FLOW CHART

● REPRESENTS AREA OF WORK BEING COMPLETED IN KANSAS

■ REPRESENTS AREA OF WORK WHICH REQUIRED FURTHER ANALYSIS

PREPARED BY: LANGSTON, KITCH & ASSOC. INC.
515 FIRST NATIONAL BANK BUILDING
WICHITA, KANSAS 67202

DATE : OCTOBER 24, 1969

SURVEY FIELDWORK - Field surveys were employed to gather the data. The surveys were accomplished by a combination of personnel from the Park and Resources Authority, Fish and Wildlife Commission, Economic Development Department, and Soil Conservation groups. A one day training session on field procedures was conducted for those who carried out the facility inventory. There was no formal training session for the user survey. The survey results indicate that a more thorough program of training must be initiated.

Considerable analysis has been made to determine the most feasible means of maintaining the data base. At first it appeared feasible to utilize people already in the field such as TAC groups, Fish and Wildlife personnel and county recreation personnel to obtain the data. However, the timing and quality control prohibits their use. The data would be more timely and usable if developed by a crew under the direct supervision of personnel of the Park and Resources Authority. Such an arrangement would provide for continuous training in field operations.

The forms and training manuals for accomplishing user surveys and facility inventories have been developed. In addition, procedures for establishing quality ratings have been documented. This documentation is a part of the Oblinger-Smith Corporation Report.

The system has been developed to provide the physical resources required. However, the financial resources required have not been included. Conceptually the data base should include the financial capability of the state with regard to the ability to finance various projects. In addition information such as population and economic characteristics are necessary to accomplish a total analysis. This information can be input to the

system from other sources. It is not required that this data be made a part of the files.

The data file structure for the facilities inventory is depicted as Appendix G. The data gathered in the initial survey has not been structured in this format. However, as additional areas are surveyed this should be accomplished.

POPULATION INFORMATION SYSTEM - Kansas State University was awarded a contract to establish a population information system for the State of Kansas. Our responsibility in this regard was that of consulting with the contractor to insure compatibility. Coordination with Dr. Joseph E. Di Santo, who represented the University,continued throughout the study. Several conferences were held to discuss the problems and possible solutions to the development of a demographic information system. Langston, Kitch & Associates, Inc. assisted in accomplishing the needs survey for population information. The results of the survey are shown in Figure I of this report. The basic requirements for the system are defined in the report, "Some Considerations for a Population Information System in Kansas". (#29A)

Recommendations

1. Continue to work with and support the information systems activity of the various departments.

2. As related in this study the need for population information is the most common of all categories surveyed. The work accomplished by the Kansas State University Population Lab should be given considerable emphasis in terms of acquiring the data required and developing data handling systems.

3. Land Use Information is one category where the Department of Economic Development can exercise considerable influence. The need for a land use requirements manual is evident. The Planning Division should develop such a manual and require that land use studies be accomplished accordingly. Should this be done, a system for maintaining such data can be developed and implemented. In this manner, the Department of Economic Development can be of service to many other departments as well as enhance the data needs for state development planning.

4. A "Directory of State Information" should be developed and maintained. This directory should be issued to state agencies, departments, boards, and commissions. The directory should include:

   A. Specific subject (data)

   B. Tabular detail (data scope)

   C. Area detail or level (state, county, city, etc.)

   D. Frequency of change (annual, monthly, etc.)

   E. Source documents and notes (source of data and exceptions)

   F. Media of data (manual reports, cards, magnetic tape, disc storage, etc.)

5. The Kansas civic audit contains considerable information for planning. At present there is no assurance that the audit will be completed by the various cities. Thus, no assurance of being able to maintain the information. KDED should consider ways of assuring that this survey be completed. This might become a requirement for planning assistance and funds through the state.

6. Establish a data control committee of knowledgeable representatives from various agencies. The need for such a controlling group springs directly from the complexity of the data bases. Because of the intended single source for specific data, with multiple usage by various agencies, changes to the data files should not be made arbitrarily. The suggested data control group would monitor and publish changes to the data base. As a data base is created, the control group would monitor the creation and administration of the data base. They would provide visibility to the users with respect to availability and content of files. This responsibility may belong to the State's Systems Analyst. However, the Department of Economic Development should encourage this action.

7. The recreation information and economic information that has been developed should be maintained.

   A. Complete the recreation system as described in this report.

   B. Provide assistance to update Economic Information System.

   The Recreation Information System should be maintained through cooperation with and assistance to the Park and Resources Authority.

ANALYSIS OF REQUIREMENTS

The requirements for implementing the recommendations specified in this report are based on the consultant's concept of those State Information Systems activities that relate to the activities of the Planning Division as it now functions. No attempt has been made to allocate the cost of implementing the recommendations to various state departments, i.e., only total cost estimates are stated.

RECOMMENDATION #1-SUPPORT OF INFORMATION SYSTEM - The Planning Division of the Department of Economic Development should employ one experienced information systems analyst. Such an employee should be well trained in the development and management of large data bases and should be knowledgable in the area of computer technology. The primary duties of the information systems analyst would be to advise the director of planning on information systems matters. In addition, he would coordinate with other state departments and agencies to relate information systems development to the planning process. Specifically, the systems analyst would be responsible for recommending areas in which planning should support systems development, define the Planning Division involvement and accomplish systems development or assist others in development. The systems analyst should be a member of the recommended data control group.

The cost for employing an information systems analyst would be approximately $16,000 annually.

RECOMMENDATION #2-POPULATION INFORMATION SYSTEM - The survey revealed that population information is the most commonly used category of data at the state level. In addition, it is the category that is most arbitrarily

generated and quoted. It seems imperative that some state agency be designated as the official population information repository. There is general agreement with Dr. Di Santo's report with regard to minimum data requirements and organizational arrangement. Dr. Di Santo provided cost figures for an on-going information system. Without the benefit of a design this consultant cannot comment on these cost estimates. However, approximately $10,000 would be required to develop a design format and refine the total development, implementation, and operating cost.

RECOMMENDATION #3-DIRECTORY OF STATE INFORMATION - The Planning Division should develop and produce a directory of state information. This directory should include only descriptions of the various data bases available and should not attempt to maintain record formats, etc. The directory should be updated at least quarterly. Cost estimates for the directory are as follows:

Development - Format and type of system (manual, computerized)	$ 2,000
Identify data bases available and the manner in which they are stored (tape, disc, cards, manual forms)	$ 8,000
Design detail system and procedures to obtain and maintain directory	$ 6,000
Gather data and implement system	$12,000
Total Development Cost	$28,000
Quarterly Update	$ 1,000
Produce Listings	$ 2,000
Total Operating Cost Quarterly	$ 3,000

RECOMMENDATION #5-KANSAS CIVIC AUDIT - There should be no cost involved in this recommendation. This should be a policy decision within The Department of Economic Development.

RECOMMENDATION #6-DATA CONTROL COMMITTEE - A data control committee should be encouraged. The representation should include the various agencies who generate and utilize information. There should be no additional cost associated with promoting such a committee.

RECOMMENDATION #7-MAIN RECREATION AND ECONOMIC DATA - Forms and procedures have been developed for gathering recreation and economic data. A total economic input-output program has been implemented and a methodology for maintaining the State Recreation Plan has been established. There is some development required to finalize the recreation information system. The cost for maintaining the economic information system will be contained in a report by the Office of Economic Analysis. The cost estimates for the Recreation Information System are as follows:

FINALIZE DEVELOPMENT

Write File Creation and Maintenance Programs	$ 3,000
Write or obtain generalized retrieval and report writing system	$30,000
Establish resource sector of the master file	$ 1,000
Establish resource forms for input	$ 1,000
Establish social and population sector of master file	$ 1,000
Establish input procedures for social and population information	$ 1,000
Produce a procedures manual for total system	$ 2,000
Computer time on 65/C computer	$ 5,000
Estimated Total Remaining Development Cost	$44,000

OPERATING COST

The operating cost of the system will vary based on the number of applications processed plus the frequency with which the plans are updated. The cost estimated here is for annual update of the data base and review of the recreation plan.

Update data base - Field Survey-3 surveys @ $8,000	$24,000
Computer time including operator - 30 hours	3,000
Approximate total data base maintenance	$27,000
Analyze and manipulate data base - including plan revision, and 100 hours computer time including operator	$10,000
Total Annual Cost of System	$37,000

APPENDIX A

Survey of Planning Information
Uses and Sources in the Agencies
of State Government of Kansas.

Every agency uses information from a variety of sources to plan and budget its future activities. Some of the information comes from the agency's own source, some from State and Federal governmental agencies, and some from private sources. Some planning information is gathered on a routine basis while some data are collected as the need arises.

The goal of this effort is to make the data presently being collected by state agencies more widely available by defining for all, those data items that are available and by developing the capability to update and maintain these records.

Our objectives in the study design phase for a Planning Information System are as follows:

1. To insure that planning information being collected under the auspices of the current planning program is compatible with a common planning data base.
2. To survey various state agencies for their access to and requirements for additional planning data.
3. To generally define a list of common data items that are used in planning.
4. To define objectives of and uses for a Planning Information System.
5. To prepare a general systems design for a computer based maintenance and retrieval system.

We solicit your cooperation in this matter because no single person will have the knowledge of all the planning information used in and developed by the individual agency. The planning information maintenance and retrieval system has not been designed.

Without the knowledge that will be obtained from this survey no such system could be designed that would: (1) Meet the needs of the users and (2) Effectively utilize the existing sources of information.

The system can only be designed to meet the needs as they are expressed and can utilize only data sources that are revealed to the contractor. We ask that you answer the questions carefully and circulate it to other key staff

members to insure that it reflects the agency's planning information needs as seen from several different perspectives.

Following are examples of types of data we are considering. Please indicate which data your agency uses by circling the appropriate letter or number. The table for each series of data types should be checked for frequency, importance and accuracy for the general data category.

I. PHYSICAL DATA

A. Land and its use
1. Information related to parcels
2. Assessed valuation
3. Information related to census tract
4. Parking facilities
5. Origin and destination
6. Planning areas
7. School districts
8. Other - Explain

9. Highway information
a. Value of highways
b. Kind of surface
c. Original cost
d. Maintenance cost

Frequency

Once a Week

Once a Month

Intermittently

Importance

Statutory

Maintained as part of operation

Good practice

Necessary Accuracy

± 5%

Minimum number possible

Maximum forseeable number

Best estimate

B. Recreation Resources
   1. Number of camp sites
   2. Recreation activities
   3. Number of Shelters
   4. Other - Explain

Frequency

Once a Week

Once a Month

Intermittently

Importance

Statutory

Maintained as part of operation

Good practice

Necessary Accuracy

± 5%

Minimum number possible

Maximum forseeable number

Best estimate

C. Population Information
   1. Total statewide population next year
   2. Total population - five year or longer
   3. Population by county next year
   4. Service population
      a. By age
      b. By sex
      c. By income level
      d. Other - Explain

Frequency

Once a Week

Once a Month

Intermittently

Importance

Statutory

Maintained as part of operation

Good practice

Necessary Accuracy

± 5%

Minimum number possible

Maximum forseeable number

Best estimate

D. Water Resources
1. Location of reservoirs
2. Water activities
3. Other - explain

Frequency

Once a Week
Once a Month
Intermittently

Importance

Statutory
Maintained as part of operation
Good practice

Necessary Accuracy

± 5%
Minimum number possible
Maximum forseeable number
Best estimate

E. Economic Information
1. Personal Income
a. By family unit
b. By individual
c. By geographic location
d. Other

2. Economic Indicators
a. Sales by industry by sector
b. Purchases by industry by sector
c. Other

Frequency

Once a Week
Once a Month
Intermittently

Importance

Statutory
Maintained as part of operation
Good practice

Necessary Accuracy

± 5%
Minimum number possible
Maximum forseeable number
Best estimate

F. Health Information
   1. Communicable Diseases
   2. Health facilities
   3. Patient statistics
   4. Other

Frequency

Once a Week

Once a Month

Intermittently

Importance

Statutory

Maintained as part of operation

Good practice

Necessary Accuracy

± 5%

Minimum number possible

Maximum forseeable number

Best estimate

2. Indicate sources of planning information used by your agency.
   A. Developed by our agency.
   B. Obtained from other state agencies. Name agency.
   C. Obtained from private sources. Name private source if permissable.

3. Is there additional information you desire but cannot find:
   A. How often do you require it?
      a. Monthly
      b. Annually
      c. As necessary
      d. Other

4. Is there additional data you desire and have located but cannot readily obtain?

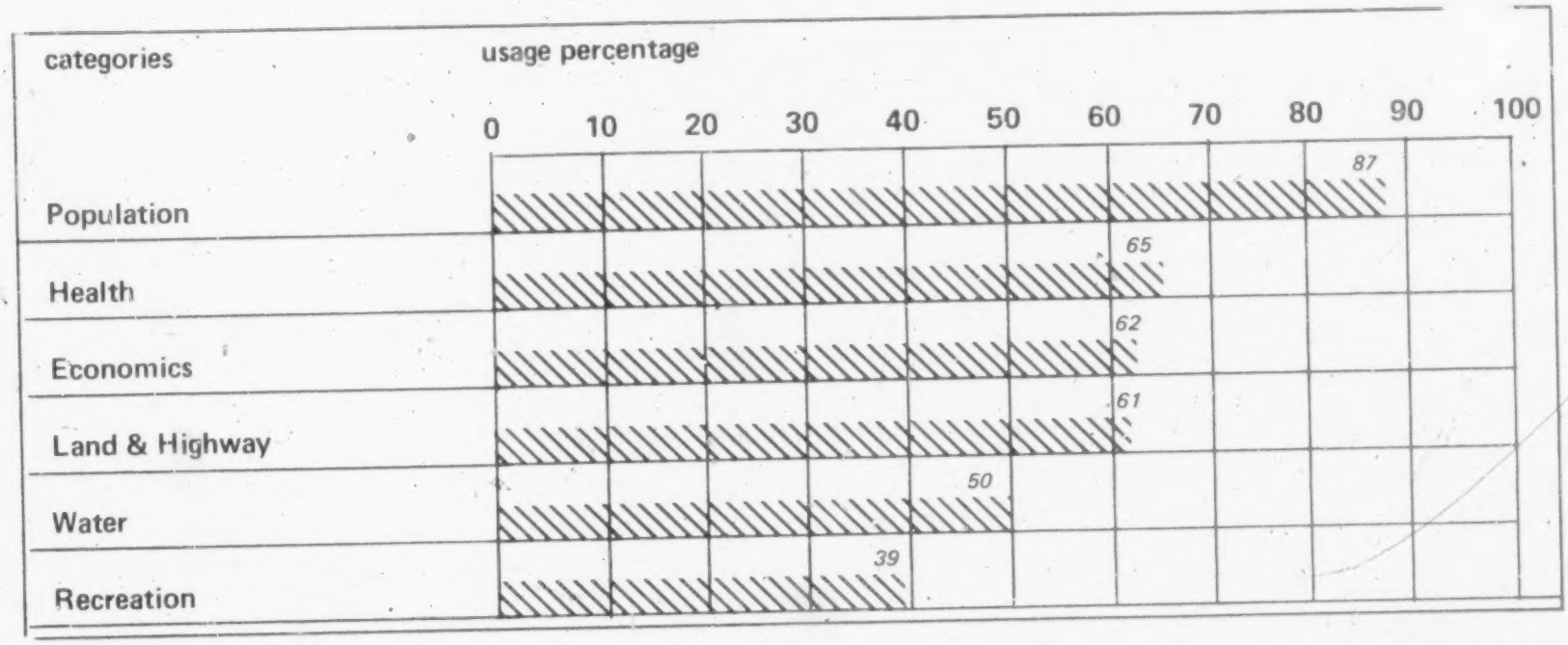
5. How much of the information you develop and use, do you consider to be confidential? Explain why.

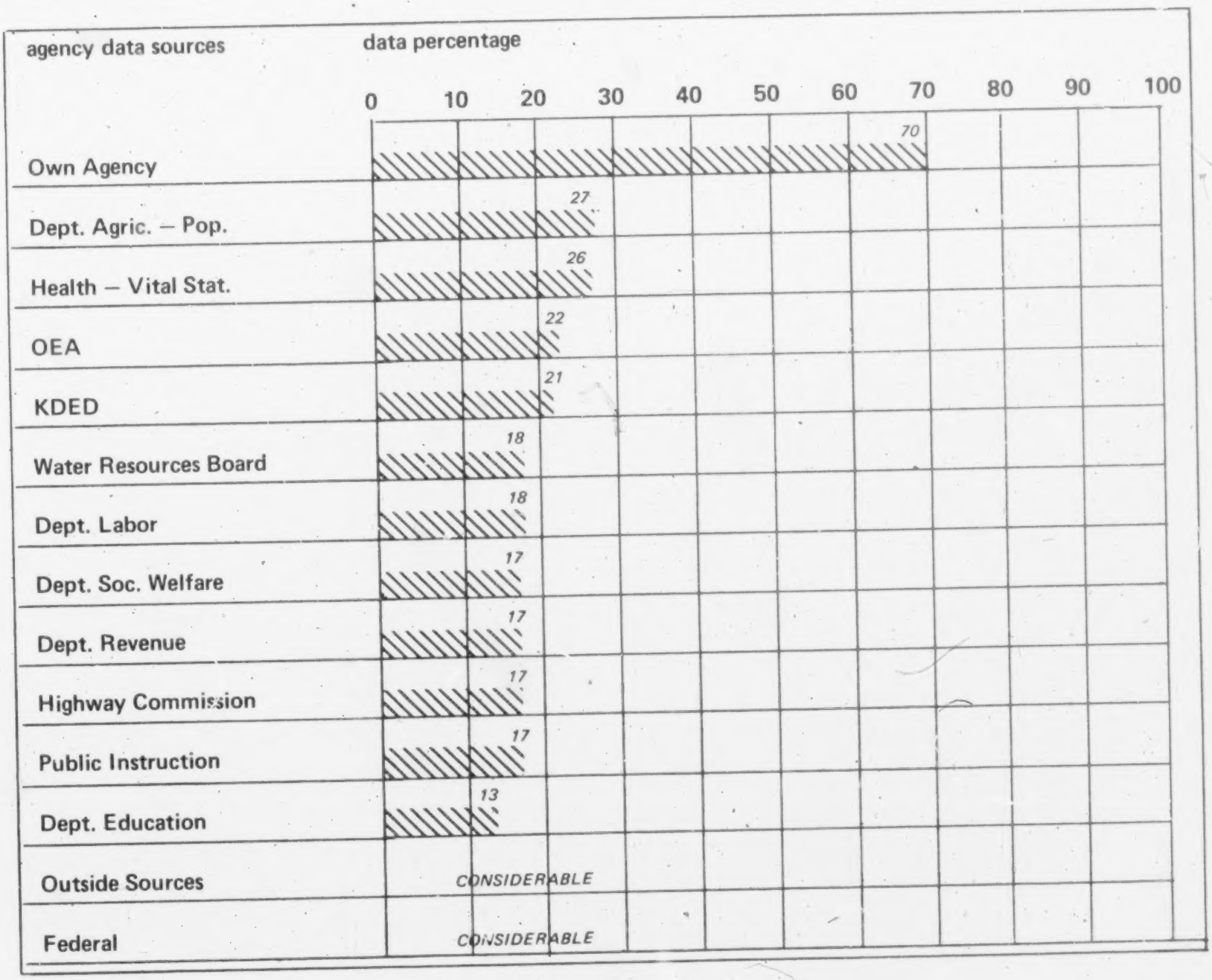
6. What information do you collect that might be useful to others in state government, to state industry or other? Give examples.

APPENDIX B

User Information

PLANNING INFORMATION CATEGORIES / COMMON USAGE PERCENTAGE





APPENDIX C

Kansas Planning Information by Category, by Data Name.

(Samples)

KANSAS PLANNING INFORMATION FORM

MAGOR CATEGORY	POPULATION	
DATA NAME	AGE	COMMONALITY % 61%
DATA DESCRIPTION	The Age of Residents - State of Kansas	

DATA SOURCE	PRIMARY	SECONDARY	OTHER
	Board of Agriculture Annual Census	U. S. Decennial Census	State Dept. of Vital Statistics U. S. Dept. of Vital Statistics School Census

PRIME DATA USERS	AGENCY NAME	NEED FREQ.	REASON
	Public Instructions	Intermit	Statuatory
	Dental Hygiene	Intermit	Operations
	Vocational Education	Intermit	Operations
	Maternal and Child Health	Monthly	Operations
	Comprehensive Health Plan	Intermit	Operations
	Social Welfare	Intermit	Operations
	Division of Vital Statistics	Weekly	Operations
	Park and Resources	Weekly	Operations
	Department of Labor	Intermit	Operations
	Board of Agriculture		Statuatory
	Department of Econ. Development	Weekly	Operations
	Office of Governor	Weekly	Operations

DEGREE OF ACCURACY REQUIRED	± 5%	MIN. ERRORS	GOOD ESTIM.
		X	

REASON DATA NOT INCLUDED IN ORIGINAL DESIGN	

Date - 9-20-68

Prepared By - LANGSTON, KITCH & ASSOCIATES, INC.

KANSAS PLANNING INFORMATION FORM

MAGOR CATEGORY	ECONOMIC	
DATA NAME	INCOME - BY FAMILY UNIT	COMMONALITY % 38%
DATA DESCRIPTION	Income Level By Family Unit, By County and State Joint Returns (Aggregate) (See Note)	

	PRIMARY	SECONDARY	OTHER
DATA SOURCE	Dept. of Revenue	U. S. Census	

PRIME DATA USERS	AGENCY NAME	NEED FREQ.	REASON
	Property Valuation Department	Intermit	Statuatory
	Department of Social Welfare	Yearly	Operations
	Legislative Council - Research Department	Intermit	Operations
	Department of Health - Dental Hygiene	Intermit	Operations
	Department of Health- Maternal and Child Care	Intermit	Operations
	Comprehensive Health Plan	Intermit	Good Practice
	Department of Econ. Development	Weekly	Operations
	League of Kansas Municipalities	Intermit	Operations
	Park and Resources	Weekly	Operations
	Research Foundation of Kansas	Intermit	Good Practice

DEGREE OF ACCURACY REQUIRED	± 5% X	MIN. ERRORS	GOOD ESTIM.

REASON DATA NOT INCLUDED IN ORIGINAL DESIGN	Note: Many agencies desire the Family Unit to include all income to that household. To do so would include the income of all immediate members of the family joined to the husband/wife income which could be possible by name-address - summarization via Revenue Dept., but not available at this time.

Date - 10-1-68

Prepared By - LANGSTON, KITCH & ASSOCIATES, INC.

KANSAS PLANNING INFORMATION FORM

MAGOR CATEGORY	HIGHWAYS	
DATA NAME	SURFACE TYPE	COMMONALITY % 42%
DATA DESCRIPTION	The Highway type of Surface (i.e: earth, brick, gravel and stone, concrete, asphalt overlay, mixed surface.)	

DATA SOURCE	PRIMARY	SECONDARY	OTHER
	State Highway Commission		

PRIME DATA USERS	AGENCY NAME	NEED FREQ.	REASON
	State Highway Commission	Frequent	Operations
	K.D.E.D.	Intermit	Operations
	Public Instruction	Intermit	Operations
	Maternal and Child Care	Intermit	Operations
	Park and Resources	Intermit	Operations
	Kansas Legislative Council	Intermit	Operations
	Property Valuation Department	Intermit	Operations
	League of Municipalities	Intermit	Operations
	Comprehensive Health Plan	Intermit	Operations
	Social Welfare	Intermit	Operations
	Highway Patrol	Intermit	Operations

DEGREE OF ACCURACY REQUIRED	± 5%	MIN. ERRORS	GOOD ESTIM.
		X	

REASON DATA NOT INCLUDED IN ORIGINAL DESIGN	

Available in Cards or on Cells.

Date - 10-2-68

Prepared By - LANGSTON, KITCH & ASSOCIATES, INC.

APPENDIX D

Data Elements and Projections by
Level of Maintainability

LAND USE

STATE	COUNTY	SECTION–RANGE–TOWNSHIP	CITY	TRACT	BLOCK	PARCEL	ESTABLISH–MENT
HIGHWAY DATA: TERMINUS CLASSIFICATIONS SURFACE TYPE IDENTIFICATIONS TOPOGRAPHY PER GEOLOGICAL SURVEYS	LAND TYPE & VALUATION LAND OWNER–SHIP TOPOGRAPHY & LAND FARM TYPE PER ASSESSOR RECORDS	U.S. OFFICIALLY RECOGNIZED LOCATION DESIGNATORS	LOCAL HIGHWAY IDENTIFICATIONS ZONING AREAS AND TYPES (IF INCORPORATED) O–D ZONES (IF HIGHWAY STUDIES HAVE DEVELOPED)	REGIONAL NUMBERING CENSUS TRACT AVAILABILITY OF UTILITIES	DESIGNATED CENSUS BLOCK	DESIGNATED SCHOOL DISTRICT PARCEL NUMBER LOCATOR KEY USAGE & SUITABILITY (FUTURE POTENTIAL IF LAND USE SYSTEMS INSTALLED)	OFF–STREET PARKING (AVAILABLE IF COMMERCIAL LOT OR BLDG. VIA ASSESSOR RECORDS)

POPULATION

	NET MIGRATION (FROM MODEL) POPULATION PROJECTIONS (FROM MODEL)		FAMILY SIZE–AVG. NUMBER IN A FAMILY UNIT (SUBJECT TO LEGIS–LATION REQMNT.)				NAME, ADDRESS, AGE, BY INDIVIDUAL SEX, BIRTHPLACE, RACE, RESIDENCE PREVIOUS YEAR (SUBJECT TO LEGIS–LATION REQMNT.)

WATER RESOURCES

RIVER BASINS & WATER SHED AREAS WATER QUANTITY AND QUALITY * GROUND WATER (LOCATION & AMOUNT) * SURFACE WATER (LOCATION & AMOUNT) * RESERVOIRS (LOCATION AND ESTIMATED SIZE IN UNITS) * RAINFALL & TEMPER–ATURE BY AREA, SEASON & MONTH * WATER BUILDUP TRENDS (SURFACE & WATER–SHED BY SEASON) * IRRIGATION DEPENDENCY (AREAS & WATER SOURCE)			MUNICIPAL AND INDUSTRIAL WATER USAGE IN UNITS OF 10,000 GALLONS				

* THIS DATA CAN BE DOWN TO REGIONS AND/OR DISTRICTS, BUT WILL BE IN ACCORD WITH REGION DELINEATIONS RECOGNIZED BY WATER RESOURCES BOARD

ECONOMIC SUB–SYSTEM

STATE	COUNTY	SECTION–RANGE–TOWNSHIP	CITY	TRACT	BLOCK	PARCEL	ESTABLISH–MENT
ENERGY PRODUCT–ION (MODEL) PETROLEUM DEVELOPMENT (MODEL) COMMODITY MOVEMENT (INTERSTATE) TOTAL ECONOMY PROJECTION (MODEL)	INCOME BY SECTOR (AGGREGATE) *INCOME BY GEOGRAPHIC LOCATIONS (AGGREGATE) *POPULATION BREAK–OUT OF INCOME BRACKETS *INCOME – POVERTY CLASS (NUMBER OF FAMILIES IN $3500 POVERTY RANGE) *INCOME BY FARM TYPE (GRAIN, LIVESTOCK ETC.) CONSTRUCTION TRENDS (MODEL)		MANUFACTURING WORTH (COMPUTER GENERATED) INDUSTRIAL DEVELOPMENT (NEW INDUSTRY) *AVERAGE INCOME BY INDIVIDUAL (AGGREGATED)				PURCHASES BY SECTOR (MODEL) PRODUCTION BY SECTOR (MODEL) SALES BY SECTOR (MODEL) –THESE WILL BE INDICATORS ONLY, NOT ACTUALS–

*SUGGESTED ADDITIONS TO THE ECONOMIC SUB–SYSTEM, NOT PART OF THE ECONOMIC MODEL AS DEVELOPED

RECREATION SUB–SYSTEM

(PARK & RESOURCES INVENTORY)

RECREATION FACILITIES AS TO LOCATION ACTIVITY COMPONENTS SIZE CAPACITY, OPERAT–IONAL TYPE,

*(38 DETAIL ELEMENTS)

FACILITY BASIC DATA

WATER ORIENTED RECREATION

TERRESTRIAL DEVELOPMENT

INTERPRETIVE DEVELOPMENT

WILDLIFE DEVELOPMENT

SPORT FIELDS

WINTER SPORTS

*CURRENTLY, THE FACILITIES COMPONENT DETAIL TO THIS DETAIL LEVEL IS CONFINED TO SUBREGION 112 OF REGION 11 AND SUBREGION 011 OF REGION 01. A USERS SURVEY AND REGRESSION MODEL WAS ALSO ACCOMPLISHED IN THESE AREAS.

HEALTH & SOCIAL RESOURCES

STATE	COUNTY	SECTION–RANGE–TOWNSHIP	CITY	TRACT	BLOCK	PARCEL	ESTABLISH–MENT
	% OF POPULATION ON GENERAL STATE ASSISTANCE OLD AGE ASSISTANCE (AGGREGATE TOTAL AND DOLLAR COST) DEPENDENT CHILDREN ON STATE ASSISTANCE (AGGREGATE TOTAL AND DOLLAR COST) BLIND ASSISTANCE (AGGREGATE TOTAL AND DOLLAR COST) DISABILITY ASSISTANCE (AGGREGATE TOTAL AND DOLLAR COST) ILLIGITIMACY % (USE AGGREGATE ONLY SO AS NOT TO DISCRIMINATE) MARITAL STATUS % OF TOTALS (MARRIED, DIVORCED, SINGLE) DIVORCE RATE (AGGREGATE) MARRIAGE RATE (AGGREGATE) BIRTHS–BY SEX (AGGREGATE) BIRTHS–BY RACE (AGGREGATE)		HEALTH FACILITIES (STATE LICENSED CENTER INSTITUT–ION AND PRIVATE CARE HOMES) HOSPITALS (EXCLUDE THOSE DESIGNATED FOR MENTAL HEALTH OR CHRONIC DISEASES) DELINQUENCY RATE (AGGREGATE) MORTALITY RATE (DEATHS–BY CAUSE)				MENTAL ILL–NESS AND RETARDATION (AGGREGATE) *OUTPATIENT PROJECTIONS *% OF PATIENTS BY TYPE (HEART, CANCER, HEPATITIS, ETC.) *COMMUNICABLE DISEASES (AGGREGATES, ESPECIALLY ON V.D. & T.B.) *IMMUNIZATION (DATA IS SO SCATTERED THE RELIABILITY AND MAINTAINABILITY IS QUESTIONED) *SANITATION AND WATER RE–QUIREMENTS FOR HUMAN CONSUMPTION

*THESE ARE DATA ITEMS SUBJECT TO A STATE HEALTH PLAN MASTER RECORD AND SHOULD BE INVESTIGATED FURTHER AS TO THE FEASIBLE MAINTAINANCE AND THE DEGREE OF RELIABILITY THAT COULD BE EXPECTED.

APPENDIX E

Data Elements Ommissions and Reason for Ommission at This Time

DATA ELEMENTS OMMISSIONS

It is to be kept in mind that the items noted below were, in most instances, voiced as intermit ently needed by some agencies during a recent survey and are hereby documented as recognization for future reference, reanalysis and possible inclusion under changed conditions of data source and maintenance. Some such suggestions were computer type analysis or projections rather than data items but are herein listed for the record.

DATA ELEMENT	DEFINITION	PRIMARY SOURCE(S)	% OF COMMON USAGE	REASON FOR OMMISSION AT THIS TIME
Zoning type and area	The zoning category as defined on the official zoning map of the local jurisdiction and the square feet of zoning category, within a parcel of land.	*	20	*Too much local jurisdiction and variation at this time. It will be practical and be an important part of land usage if a "land usage" classification coding system is adopted by Kansas.
Land usage suitability	Designation of the land in the parcels or tracts as to the suitability for reclaimation, irrigation, for grazing, agricultural production, industry, residential or other	*	20	*Through Geological Survey and Water Resources Board a classification by Region could be established and by combining available data from the Property Valuation Dept. and the State Board of Agriculture, a type of usage can be determined at lower than the Regional level. However, this should be incorporated after the establishment of a land use code system whereupon it will be a single source and maintained data.
Parking Areas Off Street	The amount of off street parking area for each establishment.	*	12	*Considering the quantity of data and the determination and maintenance of same, such is not economically feasible UNTIL a uniform state system of land usage coding is established.
Topographic Pipeline Systems	Oil & Gas pipeline maps of all state areas displaying the network direction	KANS. Geological Survey Utility & Petro. Companies.	04	Uncommon usage of such data. Too dependent on unenforceable outside input data for maintenance and change updating. Major lines in map form is available thru Kansas Geological Survey together with underground storage areas.

DATA ELEMENT	DEFINITION	PRIMARY SOURCE(S)	% OF COMMON USAGE	REASON FOR OMMISSION AT THIS TIME
Availability of utilities	The types of utilities available within each tract or parcel and the degree of services offered in relation to the total parcel.	Utility Companies and Kans. State Corp. Commission	08	Although the Kansas Corporation Commission secures and publishes the utility sales volume it is by company for electric energy, by company and city for telephone, by company, by residential/commercial industrial for gas, usually by company for water, not down to parcel level. Uncommon usage of such data.
Road origin & destination	Origin & destination zones developed by transportation studies	Kansas Highway Commission	08	Little common usage at this time. It is a record available in the Highway Commissions mechanized system if needed, but not a major base segment data item.
Highway Costs	The cost of highways and county roads to construct and to maintain.	Adm. Budget Division Appropriations - State Highway Comm. County Rec'ds.	23	Although the usage percentage is higher for this element, usage is very intermittent. Further, the individual counties have most of the road maintenance costs. Combined data input and maintenance cost by highway not practical at this time. Could come into being with further highway studies. Serves no vital purpose to most agencies and therefore no justifiable need.
Tax Collection	Taxes collected via state and local government	Rev. Dept. Prop. Val. County Records	04	Uncommon need by the agencies other originating and using organizations. Available if needed.
Highway & Road Valuation	Combined land & road value of Federal, State and County Highways and Roads.	*	20	*In a true definition of "value", it can be looked upon in terms of community good toward development and taking into consideration the convenience to the movement of state products as much as - "the dollar value of the surface and the land/road base." Research units and economic development would be the prime users of such data and then only on an infrequent usage basis. Desirable but not economically feasible at this time to the true extent of "value". If considering only "cost" not "value", secure through the State Highway Department where original cost for State & Federal plus maintenance cost on State Secondary type is available. On County Secondary roads, original cost can be determined since the state administers the 50%/50% split between Federal and County (Original cost only, not maintenance on the County Secondary type).

DATA ELEMENT	DEFINITION	PRIMARY SOURCE(S)	% OF COMMON USAGE	REASON FOR OMMISSION AT THIS TIME
Change of Address	Previous and current address by state, city, street number of individual	*	08	*No single source for such data unless a compulsory registration and updating system comes into being. Low usage of such data. Primarily of concern to the Health Department where, to a limited degree, health records will be maintained.
Economic Impact on Agri. by Farmland Irrig.	Simulate with and without irrigation the impact on developed and underdeveloped areas.	*	12	*This is of logical concern in state development and for planning purposes, but is an agricultural type study with an economic projection and not a data field to itself.
Work Skill	Available skill level by occupation type, by county.	*	04	*Low common usage item. Breakout of occupational skill levels is not economically feasible to obtain and maintain.
Occupation	Work force detail breakout, by occupation or profession.	Dept. of Labor, Dept. of Revenue U.S. Census, League of Municipalities, Bus. & Ind. Organizations, Trade Associations	69	Although occupation and skill data has frequent usage by many agencies, it is not practical to computerize all the occupational detail provided in the Dictionary of Occupational Titles. While it is true that the occupations can be grouped into 10 occupational categories and a six digit code will give broad coverage, it is the detail and not the broad summary levels that most users desire. It remains to be seen as to whether the raw data being supplied to the Economic Model can be manipulated or expanded to provide occupational coverage to the desired degree.
Physicians	The number of physicians by city, by county and statewide.	Dept. of Health Institut. Mgmt. Kans. Medical Society Amer. Assoc. of Health Amer. Academy of Gen. Pract.	04	Low usage item. Agency using the information is the source. Will more than likely be included in Health Plan Record.

DATA ELEMENT	DEFINITION	PRIMARY SOURCE(S)	% OF COMMON USAGE	REASON FOR OMMISSION AT THIS TIME
Pollution Control Ind.	The disposal from industry to sewers, ponds, local water-courses or other.	Kansas Water Law Kans. Water Resources Board	15	Although pollution control is of vital importance with the responsibility distributed among the local, state and federal levels, the municipalities are not the driving force one would desire. Kansas Water Laws spell out the regulations. This is a study and improvement field, not a data item field for a mechanized system on a low level breakout and update at this time. Occasional industrial survey, not maintained on other than cross-sample basis seems inadequate for inclusion over the long range.
Fluoride Content	The fluoride residual content of water supplies for human consumption.	Limited, Some via the Soil Conserv. Service, Dept. of Interior (River Basins)	04	A study, not a data field at this time. This may be included in the State Health Plan Study. Comment is limited to stating that such data does not have much usage by other agencies and that water quality characteristics are not maintained by areas, the nearest being the report from Soil Conservation Service. Department of Interior.
Dentists	The number of dentists by city, by county and statewide.	Kansas State Dental Assoc.	04	Uncommon usage item. Will more than likely be a consideration in the Health Plan Record.
Health Research Data	*	*	04	*Undefined by requestors. Too general in nature. One would assume that important basic data to allow statistical analysis will be a part of the State Health Plan's mechanized records.
Origin of Patients from facilities, by type of care	The origin of patients in licensed institutional facilities and aggregate record by type of care, county, state, and out of state.	Institut. Mgmt. Social Welfare	04	Uncommon usage item. May be given further consideration in conjunction with Health Plan Study.

DATA ELEMENT	DEFINITION	PRIMARY SOURCE(S)	% OF COMMON USAGE	REASON FOR OMMISSION AT THIS TIME
Separations	*	*	04	Uncommon usage item. A separation is not a dissolved marriage and may or may not be a court record under "separate maintenance". No realistic means to secure or maintain such data since many separations are to mutual agreements and not recorded.
Land Use Engineering	*	*	04	A combination rather than an individual data field. Too broad a category with sub-elements that challenge a detail breakout at this time. No "land use" classification system in operation.
Health Cost Effects on Kans. Economy	Dollar loss to family units, cost to the state for assistance and the production value loss.	*	04	*This is of statistical impact nature, not a data field. The aggregate cost of assistance, health facilities and some related data to accomplish a health cost impact exists but not to the extent desired. The mechanical model also does not exist at this time.
Land Use Topography	The geological classification and land form by parcel, tract, township, range.	*	12	A land use classification is not established; however, the U. S. Geological Survey & Kans. Geological Survey are the prime sources for such mapping and also the prime users. Outside intermittent use and true need does not justify computer data mapping to all levels, but with the existing grid layout capability and if land use classification system comes into being, make a re-evaluation.
Pollution Control Cost	Expenditure for, and status of, pollution control.	*	08	There currently does not exist an effective system of collecting and maintaining the state and municipality shared responsibility. No existing combination of records provides a reliable expense figure. Status is not a data field.
Agri-Indust. Economics	Market potential, by county, for agri-industries development in Kansas.	*	08	*This is a study to itself, not a data field. Such study can be obtained from the Kansas I/O Model.

DATA ELEMENT	DEFINITION	PRIMARY SOURCE(S)	% OF COMMON USAGE	REASON FOR OMMISSION AT THIS TIME
Retail Firms	Number of retail firm employees, by classification number, by county.	Employment Sec. Div. Labor Dept. Statistics	04	Low common usage. Should need occur, could secure services of agencies noted.
Income-By Race	Average individual income by race type (with or without relationship to age)	U. S. Census Dept. of Revenue (To some extent)	08	Would be available through revenue and can be determined to some extent through the U. S. Census. It would not have current updating and would not be to all race class breakouts.
Income-By Occupation	Average income by occupation classification	U. S. Census	08	The economic data base could be expanded to include income average per sector, but not to the broad extent of all occupational classifications. To use the U. S. Census depends on too infrequent updating media. The Kansas Census is not geared to obtain this data and unless the multitude of occupational classifications is consolidated to a dozen or so broad classes it is not practical, in light to the data usage.
Mineral Resources	Mineral Production, National and State and the mineral sources potentials for development.	Dept. of Interior Nat'l Publications Land Mgmt. Offices Economic Model (Ltd. to mining sector)	04	Non metallic and other mining are sectors covered in the economic model but to state only, not national. National statistics can be secured from Dept. of Interior and from National Publications, such as the Engineering and Mining Journal. The potential resources for development is a study and not a single data field. Uncommon usage of such data.
Rest Areas	Location and rating of safety rest areas.	*	04	*Roadside parks are listed by the Highway Commission of Kansas but there is no consolidation to state mapping of all pull-off rest stops. There is little demand for this data and if warranted later, it would be in the land useage and highway category.

DATA ELEMENT	DEFINITION	PRIMARY SOURCE(S)	% OF COMMON USAGE	REASON FOR OMMISSION AT THIS TIME
Availability of Recreation Resources in Relation to Pop. Segment	Location and ratio of diversity of recreation facilities in relation to population segments	*	04	This is an analysis and planning function and is the basic consideration within the Park & Resources Boards planning but is not an individual data field.
Sanitation Control Around Rec. Facilities	Refuse and Sewage disposal in and around facilities and their component activities.	Parks & Resources Board and in some cases of sewage, the Water Res. Board.	04	Designated facility complexes and their components are provided with trash disposal units and maintenance service on same, unless a concession and there it is surveyed. Park attendants ascertain that shelters are maintained in a sanitary condition. There is the adherence to Kansas Water Laws if sewage is disposed to streams, or coordinated for wavers from Water Resources Board, if applicable. The Recreation Facility Survey rating as to type and adequacy of water, sewage and related factors will also be available.
Recreation Resources Annual to Seasonal usage	The usage of recreation facilities and activities in comparison to the seasons of the year.	*	04	*Low usage data. Further, this type data will not be available. To obtain or maintain such data is prohibitive to the benefit to be gained. Activities vary according to the season and continuous surveying would add up to an unjustifiable expense.

APPENDIX F

Agencies Contacted by Surveys and/or Interviews

AGENCIES CONTACTED BY SURVEYS AND/OR INTERVIEWS

Office of the Governor
Dental Hygiene - State Department of Health
Disease Prevention and Control
Health Education
Highway Patrol
Vocational Education
Maternal & Child Care - State Department of Health
Social Welfare Department
Local Health - State Department of Health
Hospital Division - State Department of Health
Adult Care Homes
Health Mobilization
Food & Drug Act - State Department of Health
Comprehensive Health Planning
Environmental Health - State Department of Health
Division of Vital Statistics
Public Instruction
State Highway Commission
Department of Labor - ESD
Water Resources Board
Administration - Budget Division
Park & Resources Authority
Board of Agriculture
Department of Economic Development
Office of Economic Analysis
Research Foundation of Kansas
Property Valuation Department
Kansas Forestry, Fish & Game Commission
Kansas Geological Survey
Kansas Legislative Council - Research Department
League of Kansas Municipalities
Division of Institutional Management - Social Welfare
Environmental Geology Section - Geological Survey
Board of Regents (No Response)

APPENDIX G

Recreation Inventory File Structure

APPENDIX G
RECREATION MASTER FILE

RECORD LAYOUT

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
	(1) IDENTIFICATION		
100	1.1 Record I/D Code	N	2
	1.2 Locator		
101	1.20 Longitude/Latitude (x & y code)	N	12
102	1.21 County	N	3
103	1.22 City	N	3
104	1.23 Unit	N	2
105	1.24 Tract	N	3
106	1.25 Block	N	3
107	1.26 Facility Number (4) & Area (2)	N	6
108	1.27 Section	N	3
109	1.28 Range	A/N	3
110	1.29 Township	A/N	3
111	1.3 Facility Name	A/N	21
112	1.4 Facility Rating (Inventory Date)	N	6
113	1.41 Rating of Road to Facility	N	1
114	1.42 Rating of Roads Within Facility	N	1
115	1.43 Rating of Facility Water Class	N	1
116	1.44 Rating as to Diversity (components)	N	1
117	1.5 Facility Complex Operational Type	N	4
118	1.6 Entry to Complex	N	2
	1.7 Ownership		
119	1.71 Prime Ownership	N	2
120	1.72 Secondary Ownership	N	2
121	1.73 Prime Purpose of Ownership	N	2
122	1.74 Secondary Purpose of Ownership	N	2

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
	(1) ADMINISTRATION		
123	1.81 Type of Governmental Administration	N	8
124	1.82 Type of Departmental Administration	N	8
	1.9 Acreage		
125	1.91 Total Land Acres	N	6
126	1.92 Total Acres of Water	N	5
127	1.93 Total Developed Acres	N	5
	(2) WATER ORIENTED RECREATION		
128	2.10 Beaches Rating	N	3
129	2.11 Developed Beach Footage (Linear Feet)	N	5
130	2.111 Operational Type of Beach	N	1
	2.12 Beach Snack Bars		
131	2.121 Number of Beach Snack Bars	N	2
132	2.121 Operational Type of Snack Bars	N	1
	2.13 Locker Service		
133	2.131 Locker Service Available	N	1
134	2.132 Operational Type of Locker Service	N	1
	2.14 Equipment Rental		
135	2.141 Equipment Rental is Available	N	1
136	2.142 Equipment Rental Operational Type	N	1
137	2.20 Swimming Pool Ratings	N	3
138	2.21 Pool Surface Area in Sq. Ft. of Water	N.	5
139	2.211 Operational Type of Pool	N	5

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
140	2.22 Number of Pool Snack Bars	N	2
141	2.221 Operational Type of Pool Snack Bars	N	1
142	2.23 Swimming Pool Locker Service Available	N	1
143	2.231 Operation Type of Pool Lockers	N	1
144	2.24 Swimming Pool Equipment Rental Available	N	1
145	2.241 Operational Type of Pool Equipment	N	1
146	2.25 Life Guard Rate	N	1
147	2.26 Diving Apparatus Rate	N	1
148	2.27 Water Treatment Rate	N	1
149	2.28 Deck Rate For Pool	N	1
	2.30 Boating		
150	2.301 Boating Allowed	N	1
151	2.302 Operational Type of Boating	N	1
	2.31 Boat Access		
152	2.311 Boat Access Points	N	1
153	2.312 Boat Access Rating	N	2
	2.32 Boat Ramps		
154	2.321 Number of Boat Ramps	N	2
155	2.322 Operational Type of Ramps	N	1
	2.33 Boat Slings		
156	2.331 Number of Boat Slings	N	2
157	2.332 Operational Type of Slings	N	1
158	2.34 Ramp Assist Available	N	1
159	2.341 Operational Type of Ramp Assist	N	1
160	2.40 Water Skiing Available	N	1
161	2.50 Scuba Diving Available	N	1

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
162	2.60 Marina Rating	N	3
163	2.601 Number of Open and Covered Slips	N	4
164	2.602 Number of Covered Slips	N	4
165	2.603 Operational Type of Slips	N	1
166	2.61 Equipment Rental/Sale at Slip Locations	N	1
167	2.611 Operational Type of Equipment Service	N	1
168	2.62 Number of Boats That Can Be Stored	N	3
169	2.621 Operational Type of Boat Storage	N	1
170	2.63 Number of Snack Bars at Marina	N	2
171	2.631 Operational Type of Snack Bars	N	1
	2.70 Fishing		
172	2.71 Access Operational Type	N	1
	2.72 Water Body Type		
173	2.721 River	N	1
174	2.722 Creek	N	1
175	2.723 Five or Less Acres	N	1
176	2.724 Over 5 Acres	N	1
	2.73 Fishery Types		
177	2.731 Put and Take	N	1
178	2.732 Natural Reproduction	N	1
	2.74 Fish Type		
179	2.741 Varied	N	1
180	2.742 Channel Cat Only	N	1
181	2.743 Carp and Bullhead	N	1
	2.75 Fishing Pier or Dock		
182	2.751 Number of Piers/Docks	N	2

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
183	2.752 Operational Type Piers/Docks	N	1
184	2.753 Number of Heated Docks	N	2
185	2.754 Operational Type Heated Docks	N	1
	2.76 Walkways		
186	2.761 Number of Walkways	N	2
187	2.762 Operational Type of Walkways	N	1
	2.77 Fishing Guides		
188	2.771 Guides Are Available	N	1
189	2.772 Operational Type of Guides	N	1
	(3) TERRESTRIAL DEVELOPMENT		
190	3.10 Trails - Rating	N	1
191	3.11 Horse Trails Available	N	2
192	3.111 Miles of Horse Trails	N	1
193	3.112 Operational Type Horse Trails	N	1
194	3.12 Foot Trails Available	N	1
195	3.121 Miles of Foot Trails	N	2
196	3.122 Operational Type Foot Trails	N	1
197	3.13 Bicycle Trails Available	N	1
198	3.131 Miles of Bicycle Trails	N	2
199	3.132 Operational Type Bicycle Trails	N	1
200	3.14 Motorcycle Trails Available	N	1
201	3.141 Miles of Motorcycle Trails	N	2
202	3.142 Operational Type of Motorcycle Trails	N	1
	3.20 Campgrounds		
203	3.21 Camp Sites Available	N	1
204	3.22 Camp Sites Rating	N	3

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
205	3.23 Camp Site Acres	N	3
206	3.231 Operational Type Camp Sites	N	1
207	3.24 Group Campgrounds Available	N	1
208	3.25 Group Campgrounds Rating	N	3
209	3.26 Acres of Group Camps	N	3
210	3.261 Operational Type of Group Camps	N	1
	3.30 Stadia - Amphitheaters		
211	3.31 Stadia - Amphitheater Available	N	1
212	3.32 Stadia - Amphitheater Rating	N	3
213	3.33 Approximate Number of Seats	N	5
214	3.331 Operational Type of Stadia	N	1
215	3.34 Number of Designated Parking Spaces	N	4
	3.40 Horsebacking		
216	3.41 Horse Rental Available	N	1
217	3.4111 Operational Horse Rental	N	1
218	3.42 Horse Stable Rating	N	3
219	3.421 Operational Type Stables	N	1
220	3.43 Number of Horse Stalls	N	3
221	3.44 Horse Equipment Rental/Sales Available	N	1
222	3.441 Operational Type of Rental/Sales Service	N	1
	3.50 Overnight Accommodations		
	3.51 Transient Trailer Parks		
223	3.511 Rate of Trailer Parks	N	3
224	3.512 Number of Parking Sites	N	3
225	3.513 Operational Type Trailer Park	N	1

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
226	3.521 Rating of Motels/Cabins	N	3
227	3.522 Accommodation Capacity	N	3
228	3.523 Operational Type Motel/Cabins	N	1
	3.53 Lodges		
229	3.531 Rating of Lodges	N	3
230	3.532 Accommodation Capacity	N	3
231	3.533 Operational Type Lodges	N	1
	3.60 Restaurant - Cafe		
232	3.61 Number of Restaurants - Cafes	N	3
233	3.611 Operational Type Restaurant/Cafe	N	1
234	3.62 Rating of Restaurant/Cafe	N	3
	3.70 Picnicking		
	3.71 Designated Picnicking		
235	3.711 Rating of Designated Picnicking	N	3
236	3.712 Number of Designated Picnicking Acres	N	3
237	3.713 Number of Grills	N	2
238	3.714 Number of Tables	N	3
239	3.715 Operational Type Designated Picnicking	N	1
240	3.716 Number Parking Spaces-Designated Picnicking	N	3
	3.72 Group Picnicking		
241	3.721 Rating of Group Picnicking	N	3
242	3.722 Number Acres of Group Picnicking	N	3
243	3.723 Operational Type Group Picnicking	N	1
244	3.724 Number Parking Spaces Group Picnicking	N	3
	3.80 Golf		
	3.81 Regular Golf		
245	3.811 Rating of Regular Golf Course	N	3

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
246	3.812 Eighteen (18) Holes	N	1
246	3.813 Nine (9) Holes	N	1
247	3.814 Par 3	N	1
248	3.815 Operational Type of Regular Golf Course	N	1
	3.82 Practice Golf		
249	3.821 Rating of Practice Golf Service	N	3
250	3.822 Number of Putting Greens	N	2
251	3.823 Number of Driving Ranges	N	2
252	3.824 Number of Pitch & Putt	N	2
253	3.825 Operational Type of Practice Facility	N	1
254	3.826 Number Parking Spaces @ Practice Facility	N	4
	3.90 General Amusement Areas		
255	3.91 Overall Rating of General Amusement @ Facility	N	3
	3.92 Minature Golf		
256	3.921 Minature Golf Course Available	N	1
257	3.922 Number of Minature Golf Courses	N	2
258	3.923 Operational Type of Minature Golf	N	1
	3.93 Pavilions (Dance, Skate, etc.)		
259	3.931 Pavilion Area in Sq. Ft.	N	5
260	3.932 Operational Type of Pavilion		
261	3.94 Parking Spaces For General Amusement Areas	N	3
262	3.941 Operational Type of Parking-Gen. Amusement	N	1
	(4) INTERPRETIVE DEVELOPMENT		
	4.10 Nature Trails		
263	4.101 Nature Trail Point Rating	N	1
264	4.102 Trail Miles to Nearest Tenth	N	4

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
265	4.103 Operational Type of Nature Trail	N	1
	4.20 Exhibit Buildings & Museums		
266	4.201 Exhibit Building/Museum Rating	N	3
267	4.202 Exhibit Building/Museum Sq. Ft. Area	N	5
268	4.203 Operational Type Exhibit Building/Museum	N	1
269	4.204 Parking Spaces For Exhibit Building	N	4
270	4.205 Operational Type Parking	N	1
	4.30 Restoration/Excavation & Display		
271	4.301 Rating of Restoration/etc.	N	3
272	4.302 Number of Restoration/Excavation Sites	N	3
273	4.303 Visitor Control Available	N	1
274	4.304 Operational Type of Restoration/Excavation & Display	N	1
275	4.305 Parking Spaces Restoration/etc.	N	4
276	4.306 Operational Type of Restoration/Excavation Parking	N	1
	4.40 Roadside Exhibit		
277	4.401 Roadside Exhibits Available	N	1
278	4.402 Number of Roadside Exhibits	N	2
279	4.403 Operational Type of Roadside Exhibits	N	1
	4.50 Towers/Platform Observation		
280	4.501 Availability of Towers/Platforms	N	1
281	4.502 Number of Towers/ Platforms	N	2
282	4.503 Operational Type Towers/Platforms	N	1
	4.60 Fair Grounds (Used for Recreation)		
283	4.601 Fair Grounds Available for Recreation	N	1
284	4.602 Acres of Fair Grounds Available	N	4

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
285	4.603 Operational Type Fair Ground Recreation	N	1
	(5) WILDLIFE DEVELOPMENT		
	5.10 Waterfowl Habitat		
286	5.101 Developed Acres-Waterfowl Hunting	N	5
287	5.102 Acres Available to Public Hunting	N	5
288	5.103 Operational Type Waterfowl Habitat	N	1
	5.20 Waterfowl Blinds		
289	5.201 Rating of Waterfowl Blinds	N	1
290	5.202 Number of Set Locations Blind Shelters	N	2
291	5.203 People Capacity in Total Blinds	N	3
292	5.204 Operational Type of Waterfowl Blinds	N	1
	5.30 Waterfowl Services		
293	5.301 Waterfowl Dogs Available	N	1
294	5.302 Number of Waterfowl Dogs Available	N	3
295	5.303 Operational Type of Waterfowl Dog Available	N	1
296	5.304 Waterfowl Guides Available	N	1
297	5.305 Number of Waterfowl Guides	N	2
298	5.306 Operational Type of Waterfowl Guides	N	1
299	5.307 Water Vehicle Equipment Available	N	1
300	5.308 Number of Special Vehicle Equipment	N	3
301	5.309 Operational Type of Special Vehicle Equip.	N	1
	5.40 Upland Game Habitat		
302	5.401 Land Acres For Upland Game Use	N	5
303	5.402 Upland Game Acres for Public Use	N	5
304	5.403 Operational Type of Upland Game Acres	N	1

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
	5.50 Upland Game Services		
305	5.501 Upland Game Guides Available	N	1
306	5.502 Number of Upland Game Guides	N	2
307	5.503 Operational Type of Upland Game Guides	N	1
308	5.504 Upland Game Dogs Available	N	1
309	5.505 Number of Upland Game Dogs	N	3
310	5.506 Operational Type of Upland Game Dogs	N	1
	5.60 Big Game Habitat		
311	5.601 Land Acres For Big Game Use	N	5
312	5.602 Acres of Big Game Land-Public Use	N	5
313	5.603 Operational Type of Big Game Habitat	N	1
	5.70 Big Game Services		
314	5.701 Number of Blinds/Tree Stands	N	3
315	5.702 Operational Type Big Game Blinds	N	1
316	5.703 Big Game Guides Available	N	1
317	5.704 Number of Big Game Guides	N	3
318	5.705 Operational Type of Big Game Guides	N	1
	(6) SPORT FIELDS/GAME FIELDS/GAME STADIUMS		
319	6.10 Game Field Rating	N	3
320	6.101 Game Field Acres	N	4
321	6.102 Seating Capacity of Field Stadium	N	5
322	6.103 Operational Type of Field/Stadium	N	1
323	6.104 Number of Foot Race Tracks	N	1
324	6.20 Children's Playgrounds Rating	N	1
325	6.101 Playgrounds Are Available	N	1
326	6.102 Number of Playground Units	N	2

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
327	6.103 Operational Type of Over-all Playgrounds	N	1
	6.30 Game Courts		
328	6.301 Overall Courts Rating	N	3
329	6.302 Tennis Courts Available	N	1
330	6.303 Number of Tennis Courts	N	2
331	6.304 Handball Courts Available	N	1
332	6.305 Number of Handball Courts	N	2
333	6.306 Operational Type of Handball Courts	N	1
334	6.307 Basketball Courts Available	N	1
335	6.308 Number of Basketball Courts	N	2
336	6.309 Operational Type of Basketball Courts	N	1
	6.40 Ball Diamonds		
337	6.401 Ball Diamonds Are Available	N	1
338	6.402 Number of Ball Diamonds	N	2
339	6.403 Operational Type of Ball Diamonds	N	1
	6.50 Traps (Skeet)		
340	6.501 Traps Are Available	N	1
341	6.502 Number of Trap Units	N	2
342	6.503 Number of Trap Positions	N	2
343	6.504 Operational Type of Traps	N	1
	6.60 Firearm Target Range		
344	6.601 Target Range Available	N	1
345	6.602 Number of Target Units	N	2
346	6.603 Operational Type of Target Ranges	N	1
	6.70 Archery Ranges		
347	6.701 Archery Ranges Available	N	1

FIELD NUMBER	DATA ITEM	MODE	NUMBER OF POSITIONS
348	6.702 Number of Archery Positions	N	2
349	6.703 Operational Type of Archery Ranges	N	1
	(7) WINTER SPORTS		
350	7.10 Ice Skating Facility Rating	N	3
	7.11 Skating-Artifical Ice		
351	7.111 Artificial Ice Sq. Ft.	N	4
352	7.112 Operational Type Artificial Ice Skating	N	1
	7.20 Skating-Natural Ice		
353	7.201 Natural Ice Sq. Ft.	N	6
354	7.202 Operational Type Natural Ice Skating	N	1
355	7.30 Skiing Rating	N	3
356	7.301 Tow Rope Type Skiing	N	1
357	7.302 Disc Type Skiing	N	1
358	7.303 Feet of Cleared Slope	N	4
359	7.304 Operational Type of Ski Slope	N	1
360	7.40 Tobagganing/Sledding Rating	N	1
361	7.401 Feet of Tobogganing/Sled Slope	N	4
362	7.402 Operational Type of Tobagganing/Sledding	N	1

NOTE: There may be additions to end of record as other facility components are adopted for future inventories.

APPENDIX H

Recreation Inventory Tabulation Sample

1969 KANSAS OUTDOOR RECREATION INVENTORY DATE 03-02-70

BROWN COUNTY POPULATION 14,346

PUBLIC RECREATION FACILITIES

COUNTY	CITY	FACILITY	AREA	FACILITY NAME	ACCESS: ROAD	ACCESS: ADM	ACCESS: WATER	ACCESS: DIVERSITY	RESOURCES: TOTAL LAND	RESOURCES: TOTAL WATER	RESOURCES: TOTAL DEVELOPED	ADMINISTRATION: OWNERSHIP GOV.	ADMINISTRATION: OWNERSHIP DEPT.	ADMINISTRATION: PRIMARY USE	ADMINISTRATION: DEGREE OF DEVELOPMENT	ADMINISTRATION: MANAGEMENT AGENCY	ADMINISTRATION: MANAGEMENT AGENCY	LOCATION: COUNTY	LOCATION: CITY	LOCATION: SECTION	LOCATION: TOWNSHIP	LOCATION: RANGE
13		8		BROWN CO STATE LAKE	5	4	4	5	000189	00062	00189	22	22	38	33	41	50	1215	18	026	02S	18E
13		9		SAFETY REST AREA	5	5	5	2	000010	00000	00010	22	22	39	39	41	54	1215	18	030	02S	15E
13		10		SAFETY REST AREA	5	4	5	1	000003	00000	00003	22	22	39	39	41	54	1215	18	030	02S	17E
13	182	1		EVEREST CITY PARK	3	4		2	000001	00000	00001	24	24	33	30	43	51	1215	18	029	04S	18E
13		2		HORTON PARK AND LAKE	5	4	5	5	000222	00171	00051	24	24	37	33	43	51	1215	18	028	04S	17E
13	468	3		POWHATTAN CITY PARK					000003	00000	00003	24	24	33	30	43	51	1215	18	028	03S	16E
13	183	4		FAIRVIEW CITY PARK	5	4	5	3	000005	00000	00005	24	24	33	30	43	51	1215	18	034	02S	15E
13	392	5		MCFILL CITY PARK	3	2	5	3	000002	00000	00002	24	24	33	32	43	51	1215	18	026	01S	15E
13	255	6		HIAWATHA SWIM POOL	3	5	5	2	000002	00000	00002	24	24	33	33	43	51	1215	19	028	02S	17E
13		7		HIAWATHA CITY LAKE	5	4	5	3	000013	00010	00013	24	24	33	30	43	51	1215	18	005	03S	17E

ADM GOV.	ADM DEPT.	COUNTY TOTALS LAND	COUNTY TOTALS WATER	COUNTY TOTALS DEVELOPED
41	50	00000189	00000062	00000189
41	54	00000013	00000000	00000013
43	51	00000248	00000181	00000077
TOTAL		00000450	00000243	00000279

****

BROWN COUNTY POPULATION 14,346

PUBLIC RECREATION FACILITIES

COUNTY	CITY	FACILITY	AREA	BEACH: BEACH AREA	BEACH: BEACH LENGTH	BEACH: OPEN SAND	BEACH: OPEN NATURAL	BEACH: OPEN PAVED	BEACH: LOCKERS	BEACH: LOCKERS PAVED	BEACH: CONCESSIONS	BEACH: CONCESSIONS PAVED	SWIMMING: WATER AREA	SWIMMING: POOL AREA	SWIMMING: OPEN	SWIMMING: OPEN NATURAL	SWIMMING: OPEN PAVED	SWIMMING: LOCKERS	SWIMMING: LOCKERS PAVED	SWIMMING: CONCESSIONS	SWIMMING: DIVING BOARDS	SWIMMING: WADING POOL	BOATING: BOAT AREA	BOATING: ACCESS	BOATING: RAMP	BOATING: SLIPS	BOATING: MOORINGS	BOATING: WATER TAXI	BOATING: SAILING CRAFT
13		2			CCCCC								545	02960	4		1 6	1 4	1 6	5	5	4	1 6	223			1		
13	255	6			CCCCC								548	06150	6		1 5	1 5	1 5	5	5	4							
GROUP TOTALS				000000	0000								0009118		0002								0000	0000					

APPENDIX I

Recreation User Survey Tabulation Sample

KANSAS RECREATION SURVEY — PART I

ACTIVITY — % OF TOTAL BY FACILITY (PRIMARY, SECONDARY, TERTIARY)		AGE GROUPS — % OF TOTAL BY FACILITY					
		00 - 13	14 - 18	19 - 25	26 - 40	41 - 64	65 - UP
1 PICNICKING	27.8%						
1 DRIVING FOR PLEASURE	18.0%						
1 SIGHTSEEING	14.7%						
1 FISHING	12.8%						
1 OTHER	7.6%						
1 OUTDOOR GAMES OR SPORTS	5.7%						
1 GOLF	3.6%						
1 BOATING	1.9%						
1 SAILING	1.6%						
1 TRAILER CAMPING	1.1%						
1 TENT CAMPING	0.7%						
1 SWIMMING	0.7%						
1 BICYCLING	0.5%						
1 WATER SKIING	0.5%						
1 ATTENDING OUTDOOR CONCERTS, PLAYS	0.5%						
1 GROUP CAMPING	0.5%						
1 WALKING FOR PLEASURE	0.5%						
1 NATURE STUDY	0.4%						
1 ATTENDING SPECTATOR SPORTS EVENTS	0.4%						
1 HIKING	0.2%						
1 CANOEING	0.2%						
1 TRAP SHOOTING	0.1%						
1 HORSEBACK RIDING	0.1%						
1 PHOTOGRAPHY	0.1%						
1 HUNTING (SMALL GAME)	0.0%						
1 ICE SKATING	0.0%						
2 SIGHTSEEING	29.5%						
2 PICNICKING	15.8%						
2 OUTDOOR GAMES OR SPORTS	15.0%						
2 DRIVING FOR PLEASURE	9.7%						
2 OTHER	7.2%						
2 BOATING	6.8%						
2 FISHING	5.7%						
2 TRAILER CAMPING	1.6%						
2 ATTENDING SPECTATOR SPORTS EVENTS	1.3%						
2 SWIMMING	1.3%						
2 NATURE STUDY	0.9%						
2 WALKING FOR PLEASURE	0.9%						
2 PHOTOGRAPHY	0.9%						
2 TENT CAMPING	0.8%						
2 HIKING	0.7%						
2 WATER SKIING	0.6%						
2 SAILING	0.3%						
2 GROUP CAMPING	0.3%						
2 BICYCLING	0.2%						
2 ATTENDING OUTDOOR CONCERTS, PLAYS	0.2%						
2 CANOEING	0.1%						
2 HORSEBACK RIDING	0.1%						
2 TRAP SHOOTING	0.1%						
2 HUNTING (SMALL GAME)	0.0%						
2 GOLF	0.0%						
3 OTHER	47.8%						
3 SIGHTSEEING	15.1%						
3 PICNICKING	9.8%						
3 NATURE STUDY	5.9%						
3 OUTDOOR GAMES OR SPORTS	3.9%						
3 DRIVING FOR PLEASURE	3.7%						
3 FISHING	3.4%						
3 BOATING	2.6%						
3 SWIMMING	2.2%						
3 HIKING	1.4%						
3 WALKING FOR PLEASURE	0.9%						
3 TRAILER CAMPING	0.6%						
3 TENT CAMPING	0.6%						
3 PHOTOGRAPHY	0.6%						
3 ATTENDING OUTDOOR CONCERTS, PLAYS	0.3%						
3 BICYCLING	0.2%						
3 HORSEBACK RIDING	0.2%						
3 WATER SKIING	0.2%						
3 GROUP CAMPING	0.2%						
3 CANOEING	0.1%						
3 SAILING	0.1%						
3 GOLF	0.1%						
		31.3%	10.2%	11.1%	24.3%	19.3%	3.8%

FACILITY							REASON FOR VISIT						FAMILY INCOME					
UT	CO	CT	SE	TW	RG		DESTINATION	ENROUTE	LESS 1/2 DAY	ONE DAY	WEEK END	VACATION	UNDER 3000	3000 TO 5000	5001 TO 8000	8001 TO 12000	12001 TO 16000	16001 & OVER
001	005	027	00	06S	21E	1	53.3%	46.7%	90.0%	10.0%	0.0%	0.0%	0.0%	23.3%	53.3%	13.3%	6.7%	3.3%
001	005	027	00	06S	21E	2	100.0%	0.0%	50.0%	50.0%	0.0%	0.0%	25.0%	25.0%	50.0%	0.0%	0.0%	0.0%
001	005	027	00	06S	21E	3	83.3%	16.7%	92.9%	0.0%	0.0%	7.1%	0.0%	7.7%	61.0%	23.1%	7.7%	0.0%
001	043	000	07	01S	19E	1	43.5%	56.5%	50.0%	0.0%	34.6%	15.4%	8.3%	4.2%	41.7%	29.2%	12.5%	4.2%
001	043	000	07	01S	19E	2	72.4%	27.6%	44.8%	0.0%	27.6%	27.6%	20.7%	20.7%	31.0%	17.2%	6.9%	3.4%
001	043	000	07	01S	19E	3	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	25.0%	0.0%	37.5%	25.0%	12.5%
001	161	000	14	07S	06E	1	89.6%	10.4%	33.3%	22.9%	39.6%	4.2%	16.7%	10.4%	27.1%	33.3%	6.3%	6.3%
001	161	000	14	07S	06E	2	81.8%	18.2%	77.8%	18.2%	1.0%	3.0%	9.1%	22.2%	23.2%	35.4%	6.1%	4.0%
001	161	000	14	07S	06E	3	79.4%	20.6%	38.2%	17.6%	29.4%	14.7%	28.6%	22.9%	31.4%	5.7%	5.7%	5.7%
002	013	266	28	04S	17E	1	42.1%	57.9%	95.2%	0.0%	4.8%	0.0%	0.0%	19.0%	71.4%	9.5%	0.0%	0.0%
002	013	266	28	04S	17E	2	45.5%	54.5%	95.5%	0.0%	4.5%	0.0%	22.7%	31.8%	22.7%	18.2%	0.0%	4.5%
002	013	266	28	04S	17E	3	57.1%	42.9%	95.8%	0.0%	0.0%	4.2%	4.3%	26.1%	47.8%	17.4%	4.3%	0.0%
007	209	000	09	11S	23E	2	91.6%	8.4%	84.6%	1.8%	0.6%	13.0%	3.2%	10.3%	25.2%	37.4%	14.2%	9.7%
008	013	000	26	02S	18E	1	90.0%	10.0%	6.7%	83.3%	6.7%	3.3%	3.3%	16.7%	36.7%	43.3%	0.0%	0.0%
008	013	000	26	02S	18E	2	89.3%	10.7%	28.6%	67.9%	3.6%	0.0%	7.1%	7.1%	60.7%	25.0%	0.0%	0.0%
008	013	000	26	02S	18E	3	90.9%	9.1%	0.0%	83.3%	8.3%	8.3%	18.2%	18.2%	45.5%	18.2%	0.0%	0.0%
008	209	291	00	11S	25E	2	81.0%	19.0%	89.3%	10.7%	0.0%	0.0%	17.9%	11.9%	38.1%	32.1%	0.0%	0.0%
008	209	291	00	11S	25E	3	91.8%	8.2%	91.0%	8.1%	0.0%	0.9%	5.4%	7.2%	47.7%	36.9%	2.7%	0.0%
011	103	000	27	11S	21E	1	100.0%	0.0%	85.3%	2.9%	11.8%	0.0%	50.0%	41.2%	8.8%	0.0%	0.0%	0.0%
011	103	000	27	11S	21E	2	97.3%	2.7%	98.0%	1.4%	0.0%	0.7%	12.2%	8.8%	24.3%	43.9%	10.8%	0.0%
011	103	000	27	11S	21E	3	84.8%	15.2%	93.9%	6.1%	0.0%	0.0%	48.5%	33.3%	15.2%	3.0%	0.0%	0.0%
012	045	312	35	12S	19E	1	63.4%	36.6%	100.0%	0.0%	0.0%	0.0%	10.0%	10.0%	20.0%	42.5%	17.5%	0.0%
012	045	312	35	12S	19E	2	84.9%	15.1%	100.0%	0.0%	0.0%	0.0%	3.6%	1.8%	27.3%	50.9%	16.4%	0.0%
012	045	312	35	12S	19E	3	53.7%	46.3%	100.0%	0.0%	0.0%	0.0%	12.5%	15.0%	40.0%	27.5%	5.0%	0.0%
012	091	529	00	12S	25E	1	87.5%	12.5%	98.4%	0.0%	0.0%	1.6%	5.0%	4.2%	17.5%	44.2%	18.3%	10.8%
012	091	529	00	12S	25E	2	90.3%	9.7%	97.9%	1.2%	0.0%	0.8%	4.1%	2.9%	21.6%	37.8%	24.1%	9.5%
012	091	529	00	12S	25E	3	96.6%	3.4%	95.8%	3.3%	0.0%	0.8%	6.7%	4.2%	25.2%	26.1%	21.8%	16.0%
014	005	027	00	05S	20E	3	100.0%	0.0%	50.0%	0.0%	0.0%	50.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
014	045	000	26	14S	20E	1	72.6%	27.4%	65.9%	18.8%	14.1%	1.2%	16.7%	22.6%	47.6%	10.7%	2.4%	0.0%
014	045	000	26	14S	20E	2	69.1%	30.9%	78.3%	15.3%	6.4%	0.0%	19.1%	18.5%	35.2%	21.0%	4.9%	1.2%
014	045	000	26	14S	20E	3	49.1%	50.9%	87.5%	10.7%	0.0%	1.8%	23.2%	10.7%	35.7%	23.2%	3.6%	3.6%
014	103	313	35	08S	22E	2	100.0%	0.0%	77.8%	5.6%	0.0%	16.7%	0.0%	0.0%	40.0%	60.0%	0.0%	0.0%
018	103	000	35	10S	20E	1	70.2%	29.8%	52.4%	14.3%	29.8%	3.6%	8.3%	36.9%	35.7%	17.9%	1.2%	0.0%
018	103	000	35	10S	20E	2	50.0%	50.0%	87.1%	10.9%	0.0%	2.0%	15.2%	42.4%	30.3%	12.1%	0.0%	0.0%
018	103	000	35	10S	20E	3	65.1%	34.9%	68.2%	15.9%	2.3%	13.6%	30.2%	16.3%	37.2%	16.3%	0.0%	0.0%
020	091	384	25	12S	23E	2	86.8%	14.2%	96.0%	5.0%	0.0%	0.0%	8.9%	3.6%	23.7%	36.8%	16.6%	10.4%
020	091	384	25	12S	23E	3	86.8%	13.2%	87.1%	10.5%	0.0%	2.3%	10.7%	7.7%	16.7%	39.9%	16.7%	8.3%
020	091	529	25	12S	23E	1	86.2%	13.8%	95.7%	2.9%	0.0%	1.4%	9.5%	4.8%	13.3%	40.0%	18.6%	13.8%
023	091	428	03	13S	23E	1	77.2%	22.8%	96.4%	1.8%	0.9%	0.9%	7.9%	8.8%	24.6%	38.6%	19.3%	0.9%
023	091	428	03	13S	23E	2	67.7%	32.3%	97.7%	0.0%	0.0%	2.3%	3.1%	6.1%	29.0%	38.2%	18.3%	5.3%
023	091	428	03	13S	23E	3	74.8%	25.2%	90.3%	5.8%	1.0%	2.9%	1.9%	21.4%	25.2%	27.2%	14.6%	9.7%
023	209	000	09	11S	23E	2	76.5%	23.5%	96.6%	0.0%	0.0%	1.4%	2.3%	16.5%	29.8%	36.7%	10.1%	4.6%
023	209	000	09	11S	23E	3	28.0%	72.0%	92.0%	4.0%	0.0%	4.0%	12.0%	8.0%	32.0%	40.0%	8.0%	0.0%
023	209	000	09	12S	23E	1	80.4%	19.6%	100.0%	0.0%	0.0%	0.0%	8.7%	10.9%	21.7%	41.3%	17.4%	0.0%
025	005	000	23	06S	20E	2	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	50.0%	0.0%	0.0%
029	005	000	09	05S	20E	1	93.8%	6.3%	66.8%	25.0%	6.3%	0.0%	3.1%	9.4%	84.4%	3.1%	0.0%	0.0%
029	005	000	09	05S	20E	2	69.0%	31.0%	78.5%	20.3%	0.0%	1.3%	19.0%	19.0%	53.6%	8.3%	0.0%	0.0%
029	005	000	09	06S	20E	3	93.8%	6.3%	76.5%	0.0%	11.8%	11.8%	31.3%	12.5%	43.8%	12.5%	0.0%	0.0%
033	091	386	03	12S	25E	1	100.0%	0.0%	22.2%	11.1%	22.2%	44.4%	3.6%	7.1%	32.1%	39.3%	10.7%	7.1%
033	091	386	03	12S	25E	2	96.6%	3.4%	71.1%	0.0%	2.6%	26.3%	0.0%	3.3%	20.0%	46.7%	23.3%	6.7%
033	091	386	03	12S	25E	3	100.0%	0.0%	64.0%	0.0%	0.0%	36.0%	0.0%	18.8%	31.3%	25.0%	18.8%	6.3%
101	013	000	16	01S	15E	1	100.0%	0.0%	85.7%	0.0%	14.3%	0.0%	54.5%	9.1%	0.0%	36.4%	0.0%	0.0%
101	013	000	16	01S	15E	2	87.5%	12.5%	54.5%	36.4%	4.5%	4.5%	25.0%	21.4%	25.0%	17.9%	10.7%	0.0%
101	013	000	16	01S	15E	3	100.0%	0.0%	87.5%	0.0%	0.0%	12.5%	18.2%	9.1%	43.6%	9.1%	0.0%	0.0%
107	085	000	36	09S	15E	1	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%
107	085	000	36	09S	15E	2	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	25.0%	50.0%
107	085	000	36	09S	15E	3	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	16.7%	33.3%	33.3%
107	209	000	09	11S	23E	1	44.4%	55.6%	84.0%	4.0%	0.0%	12.0%	0.0%	8.7%	30.4%	34.8%	17.4%	8.7%
107	209	000	09	11S	23E	3	37.9%	62.1%	37.8%	24.3%	0.0%	37.8%	3.4%	6.9%	27.6%	41.4%	17.2%	3.4%
116	209	000	21	11S	24E	1	0.0%	0.0%	85.7%	0.0%	14.3%	0.0%	14.3%	0.0%	14.3%	42.9%	0.0%	28.6%
116	209	000	21	11S	24E	2	0.0%	100.0%	80.0%	20.0%	0.0%	0.0%	14.3%	42.9%	42.9%	0.0%	0.0%	0.0%
134	091	000	32	14S	22E	1	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	37.5%	37.5%	12.5%	12.5%	0.0%	0.0%
134	091	000	32	14S	22E	2	75.0%	25.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.0%	25.0%	0.0%	0.0%
134	091	000	32	14S	22E	3	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	25.0%	50.0%	25.0%	0.0%	0.0%	0.0%
							79.5%	20.5%	84.9%	8.1%	3.1%	3.8%	10.1%	12.4%	29.1%	31.5%	11.5%	5.4%

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ROBERT R. (BOB) SANDERS, STATE PRINTER
TOPEKA, KANSAS

O-768

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